

ARTICLE

Gold-standard evidence and best practice guidance for menstrual cycle-informed clinical care: An overview for clinicians

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Abstract

Objectives: To synthesize current evidence and provide clinically actionable recommendations for integrating menstrual cycle-related processes—particularly hormone sensitivity, Premenstrual Dysphoric Disorder (PMDD) and Premenstrual Exacerbation (PME)—into psychological assessment, formulation and treatment.

Design: Narrative, clinically oriented review.

Methods: We integrated findings from experimental, longitudinal and clinical studies on menstrual cycle physiology, hormone sensitivity, PMDD and PME, with a focus on evidence relevant to psychological practice. Emphasis was placed on gold-standard methodologies (e.g., prospective symptom assessment, biologically anchored cycle phase determination) and on translational relevance for clinical decision-making.

Results: A substantial minority of naturally cycling individuals show sensitivity to normative hormonal fluctuations, resulting in clinically significant distress or impairment. PMDD affects approximately 3–8% of menstruating individuals and is characterised by severe, luteal-phase-specific symptoms and elevated suicidality risk. PME appears even more prevalent, affecting up to 50–60% of individuals with mood disorders. Despite this, menstrual cycle-related symptom patterns are rarely assessed or incorporated into routine care. The literature supports several key clinical strategies: (1) prospective daily symptom tracking across at least two menstrual cycles; (2) cycle-informed case formulations integrating timing and symptom expression; and (3) adaptation of evidence-based

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interventions to predictable cyclical patterns. Clinician-ready tools and case-based approaches facilitate implementation.

Conclusions: The menstrual cycle represents a clinically meaningful yet underrecognized source of within-person variability in mental health. Integrating cycle-informed approaches into psychological care can enhance diagnostic precision, improve personalized formulations and optimize treatment outcomes for individuals affected by PMDD and PME.

KEYWORDS

case formulation, menstrual cycle, premenstrual disorders, premenstrual dysphoric disorder, premenstrual exacerbation, psychological assessment, psychological interventions

Practitioner points

1. Encourage tracking using apps or simple diaries and review any symptom patterns in therapy to validate and inform potential diagnoses—Section 5.1
2. Provide psychoeducation on hormonal sensitivity and mental health—Section 5.3
3. Develop phase-sensitive formulations and goals—Section 8
4. Collaborate with psychiatry and/or gynaecological professionals as needed—Section 13

THE CLINICAL RELEVANCE OF MENSTRUAL CYCLE SENSITIVITY

For most reproductive-age individuals who menstruate,¹ the menstrual cycle does not cause clinically significant mood changes or psychological distress. While normal hormonal fluctuations can lead to mild variations in mood, energy or cognition, these changes are typically manageable and do not interfere with daily functioning. Indeed, research indicates that up to 90% of individuals experience some degree of cyclical psychological or physical change that does not warrant clinical intervention (Braverman, 2007; Winer & Rapkin, 2006). Such fluctuations should be recognized and normalized within public discourse.

However, for a significant minority of people, the menstrual cycle is associated with moderate to severe, cyclical mood and behavioural changes that can be profoundly distressing or impairing (Gehlert et al., 2009). Premenstrual Dysphoric Disorder (PMDD) is a severe cyclical mood disorder that is characterized by debilitating emotional and behavioural symptoms that emerge after ovulation (i.e., during the luteal phase) and remit shortly after the onset of menses. Diagnostic criteria require at least five symptoms from a heterogeneous list spanning affective (e.g., irritability/anger, depressed mood), cognitive (e.g., difficulty concentrating), behavioural (e.g., changes in appetite or sleep) and physical symptoms (e.g., breast tenderness or bloating). At least one symptom must be a core emotional symptom (depressed mood, irritability/anger, anxiety or mood swings). While suicidality is not a diagnostic

¹Throughout this manuscript, we refrain from using the term “women” and instead use expressions such as “individuals who menstruate” to precisely identify the population on whom the research presented here was conducted and to whom it generalises. Consistent with the recommendations outlined in Peters et al. (2023), we avoid gendered terminology when referring to menstrual cycle effects on the brain, as these processes are not tied to gender identity and can occur in people of diverse genders. Our goal is to use terminology that is both scientifically rigorous and gender inclusive.

criterion for PMDD, emerging research indicates alarmingly high rates of suicidal ideation (SI; 72% lifetime, 40% current), attempts (34% lifetime) and self-injurious behaviour among individuals with PMDD (Eisenlohr-Moul et al., 2022; Wikman et al., 2022).

Beyond those meeting the strict diagnostic criteria for PMDD, many individuals with chronic psychiatric disorders that we see in general psychiatric services experience clinically significant cyclical worsening of symptoms, referred to as premenstrual exacerbation (PME; Nolan & Hughes, 2022). PME is particularly common in those with chronic mood disorders, where prevalence rates range from 50–60% (Hartlage et al., 2004), but also occurs in other mental health disorders such as borderline personality disorder (Eisenlohr-Moul et al., 2018; Peters et al., 2020). Furthermore, studies of general psychiatric populations show that they are particularly susceptible to hormone-sensitive changes in mood and suicidality around menses onset (perimenstrually; Owens et al., 2023; Ross et al., 2023), and that suicide attempts, completions and hospital admissions tend to peak during menstruation and the perimenstrual phase (Jang & Elfenbein, 2019).

These findings highlight a critical clinical reality: for a significant subset of individuals, the menstrual cycle plays a central role in psychiatric vulnerability. Yet, this remains under-recognized in general mental health care. Some clinicians have proposed that the menstrual cycle should be treated as a ‘vital sign’ in psychiatric assessments (Marwick et al., 2025), but this approach has yet to be adopted in routine NHS mental health services. Despite the growing body of evidence, menstrual cycle-related symptom patterns are rarely assessed in psychological services, and clinical psychology training programmes generally lack content on cycle-sensitive assessment and treatment. Clinical psychologists are uniquely positioned to address this gap, given their expertise in psychological assessment, formulation and intervention within a biopsychosocial framework, as well as their roles in consultation and training. By incorporating menstrual cycle awareness into routine psychological practice, clinicians can substantially improve outcomes for these often-overlooked populations.

This paper provides an overview of current gold-standard evidence and best-practice guidance for clinicians working in general psychological services who wish to deepen their understanding of menstrual cycle sensitivity and implement cycle-informed, evidence-based practice. Our aim is to facilitate the meaningful integration of menstrual cycle considerations into psychological assessment, formulation and intervention by presenting accessible and clinically applicable information and tools. We begin with essential background on the menstrual cycle, followed by an overview of PMDD and PME, which are collectively referred to as premenstrual disorders (PMDs) throughout this paper. We then summarize emerging evidence highlighting substantial individual differences in neurobiological sensitivity to normative ovarian steroid hormone fluctuations and the implications for mental health. Building on this foundation, we present practical tools and strategies that can be readily incorporated into existing clinical psychology frameworks. While not intended as a comprehensive review, this paper directs readers to key references and resources for further detail.

THE MENSTRUAL CYCLE AND MENTAL HEALTH: NORMAL CHANGES AND PREMENSTRUAL DISORDERS

The menstrual cycle

The menstrual cycle can be broadly divided into the follicular phase (from menstruation to ovulation) and the luteal phase (from ovulation to the onset of the next menstruation). It is regulated by a complex neuroendocrine system and involves both hormone fluctuations (Figure 1) and inflammatory processes linked to ovulation, endometrial decidualization and menstruation (Critchley et al., 2020; Duffy et al., 2019). Menstruation is defined as the ‘monthly bleeding from the reproductive (vaginal) tract, as a consequence of cyclical changes in hormonal activity’ (National Collaborating Centre for Women’s and Children’s Health, 2007).

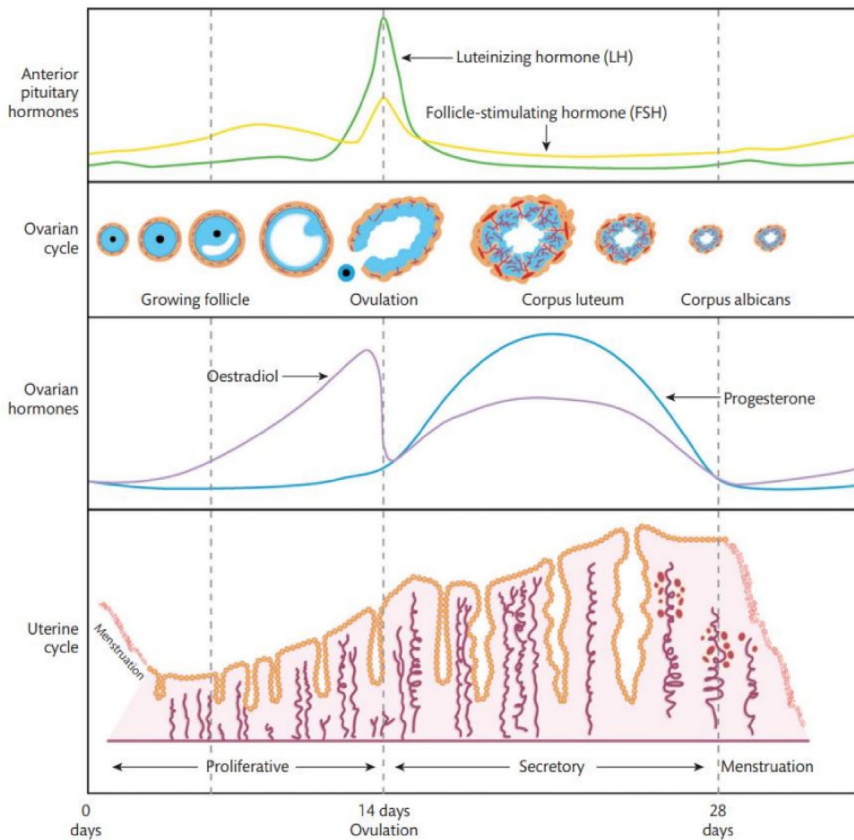


FIGURE 1 The female menstrual cycle (Whitaker et al., 2020). The menstrual cycle can be broadly divided into the follicular phase (from menstruation to ovulation) and the luteal phase (from ovulation to the onset of the next menstruation). Gonadotropin-releasing hormone (GnRH) from the hypothalamus stimulates the anterior pituitary to release follicle-stimulating hormone (FSH) and luteinizing hormone (LH). These hormonal signals drive the cyclical development of ovarian follicles during the follicular phase, leading to a progressive increase in circulating oestrogen (E₂), which peaks just prior to ovulation. Following ovulation, the luteal phase is characterized by the formation of the corpus luteum, which produces both E₂ and progesterone (P₄). In the absence of implantation and pregnancy, the corpus luteum undergoes regression, resulting in a sharp decline in E₂ and P₄ levels and the onset of menstruation during the perimenstrual phase. Hormone concentrations remain relatively low and stable during the early follicular phase.

Menstrual cycles show substantial natural variability in length. Large observational datasets analysing more than 600,000 ovulatory cycles report a mean cycle length of 29.3 days, with an average follicular phase of 16.9 days (95% CI: 10–30) and a relatively stable luteal phase of 12.4 days (95% CI: 7–17) (Bull et al., 2019). In adults, a healthy menstrual cycle typically ranges between approximately 21 and 35 days (Fehring et al., 2006; Long, 1990), whereas cycle length variability is typically greater during adolescence (Klusmann et al., 2023).

Non-clinical premenstrual changes and premenstrual syndrome (PMS)

Premenstrual changes in mood, behaviour and physical symptoms are highly prevalent, affecting up to 90% of menstruating individuals (Braverman, 2007; Winer & Rapkin, 2006). For most, these symptoms represent normal, mild and short-lived cyclical variations that do not interfere with emotional well-being or daily functioning (Dor et al., 2013; Hengartner et al., 2017; Maybin & Critchley, 2015; Schwartz

et al., 2012). However, a subset of individuals experience recurrent premenstrual symptoms that are sufficiently distressing to interfere with daily functioning, a pattern commonly referred to as premenstrual syndrome (PMS) (Halbreich et al., 2003). PMS is characterized by one to four physical, affective or behavioural symptoms that emerge during the luteal phase and remit shortly after the onset of menstruation. Although a wide range of symptoms has been described, PMS most commonly involves physical complaints such as bloating, breast tenderness, fatigue and headaches, alongside affective symptoms including irritability and tension (Halbreich et al., 1982). Taken together, these findings highlight the importance of distinguishing normal premenstrual variation from clinically significant PMDs. While mild cyclical changes are nearly universal, PMS represents a more impairing condition requiring clinical attention, particularly when symptoms disrupt functioning or quality of life.

Premenstrual dysphoric disorder (PMDD)

PMDD was first recognized by the American Psychiatric Association (APA) as an independent diagnostic category in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) in 2013 (American Psychiatric Association, 2013), where it was placed within the *Depressive Disorders* section. The World Health Organization (WHO) subsequently added PMDD to the eleventh revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-11; World Health Organization, 2022) as a standalone condition under diseases of the genitourinary system (code GA34.41), with an additional cross-listing within depressive disorders to acknowledge its central affective features. It is estimated to affect approximately 3–8% of menstruating individuals (Reilly et al., 2024), although prevalence may be underestimated because PMDD is not routinely assessed in clinical practice or research. The diagnosis is given when distressing or impairing affective symptoms emerge during the late luteal phase (the week prior to the onset of menstruation), begin to improve with the onset of menses and are minimal or absent in the week following menstruation (APA, 2022). To meet diagnostic criteria for PMDD, individuals must demonstrate this cyclical symptom pattern prospectively, through daily symptom ratings, over at least two menstrual cycles. A diagnosis requires the presence of at least five symptoms (from a list of 11 emotional, behavioural and physical symptoms), including at least one core emotional symptom (mood lability, irritability or anger, depressed mood or anxiety; Figure 2).

Across multiple carefully controlled experimental studies that have sampled gonadotropins and gonadal steroids at repeated timepoints across the menstrual cycle, individuals with prospectively confirmed PMDD show overall hormonal trajectories and mean levels that are comparable to those of individuals without luteal-phase mood or behavioural symptoms (Bäckström et al., 1983; Rubinow et al., 1988; Rubinow & Schmidt, 2006; Schmidt et al., 1994, 1998, 2017). Emerging consensus suggests that PMDD is unlikely to reflect a primary endocrine disorder of hormone production; rather it appears to involve altered neurobiological sensitivity to otherwise normative hormonal fluctuations. Clarifying this distinction is important for reducing stigma and supporting accurate, mechanism-informed treatment approaches.

PMDD is associated with significant impairment across occupational, social and relational domains (Brown et al., 2024). Alarming, emerging evidence indicates that individuals with PMDD face a markedly elevated risk of suicidal ideation (SI), suicide attempts and death by suicide (Eisenlohr-Moul et al., 2022; Opatowski et al., 2024; Osborn et al., 2021; Wikman et al., 2022). A recent meta-analysis found that individuals with provisionally diagnosed PMDD, identified through retrospective self-report at a single timepoint, were four times more likely to experience SI and seven times more likely to attempt suicide compared to those without PMDD (Prasad et al., 2021). These rates are comparable to those observed in individuals with major depressive disorder (MDD) (Cai et al., 2021), prompting growing calls from the professional community to include suicidality as a diagnostic criterion for PMDD in the DSM-5 (Gordon et al., 2024).

<p>Timing of Symptoms: Criterion A – In most menstrual cycles, at least 5 symptoms must be present in the final week before the onset of menses, start to improve within a few days after the onset of menses, and become minimal or absent in the week post menses.</p>
<p>Content of Symptoms: Criterion B – one or more of the following (core emotional) symptoms must be present:</p> <ol style="list-style-type: none"> 1. Marked affective lability (e.g., mood swings, feeling suddenly sad or tearful, or increased sensitivity to rejection) 2. Marked irritability or anger or increased interpersonal conflicts 3. Markedly depressed mood, feelings of hopelessness, or self-deprecating thoughts 4. Marked anxiety, tension, and/or feelings of being keyed up or on edge
<p>Criterion C – in addition to one or more of the following symptoms (a total of 5 symptoms required in combination with criterion B):</p> <ol style="list-style-type: none"> 1. Decreased interest in usual activities 2. Subjective difficulty in concentration 3. Lethargy, easy fatigability, or marked lack of energy 4. Marked change in appetite; overeating or specific food cravings 5. Hypersomnia or insomnia 6. A sense of being overwhelmed or out of control 7. Physical symptoms such as breast tenderness or swelling; joint or muscle pain, a sensation of bloating or weight gain
<p>Severity of Symptoms: Criterion D – The symptoms are associated with clinically significant distress or interference with work, school, usual social activities, or relationships with others.</p>
<p>Criterion E – The disturbance is not merely an exacerbation of the symptoms of another disorder, such as major depressive disorder, panic disorder, persistent depressive disorder (dysthymia) or a personality disorder (although it may co-occur with any of these disorders).</p>
<p>Criterion F – Confirmed by prospective daily ratings during at least two symptomatic cycles (diagnosis may be made provisionally before this confirmation)</p>
<p>Criterion G – The symptoms are not attributable to the physiological effects of a substance (e.g., drug abuse, medication or other treatment) or another medical condition (e.g., hyperthyroidism)</p>

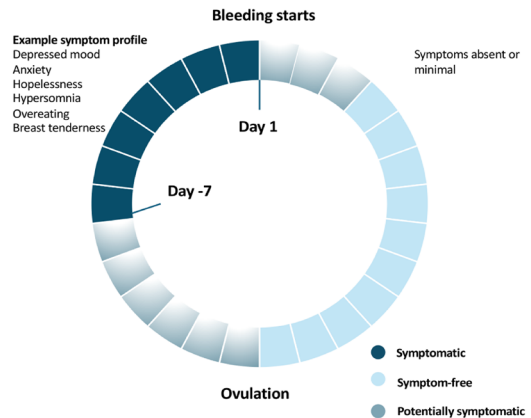


FIGURE 2 DSM-5 Diagnostic Criteria for Premenstrual Dysphoric Disorder (PMDD). Day-7 refers to 7 days prior to menses onset. The term ‘potentially symptomatic’ reflects the substantial individual differences in symptom emergence and offset. For some, symptoms will emerge immediately after ovulation whereas for others, these emerge later in the mid- or late-luteal phase. For symptom offset, the ‘switch off’ of certain symptoms typically occurs within 3 days of menses onset; however, certain symptoms, such as depression, may subside more slowly. Given these individual differences, ‘temporal subtypes’ of PMDD have been established and interested readers should refer to Eisenlohr-Moul et al. (2019) paper.

Premenstrual exacerbation (PME)

Although PMDD is now recognized as a standalone diagnosis, it represents only one presentation within the broader spectrum of PMDs. DSM-5 criteria for PMDD exclude individuals whose symptoms worsen premenstrually but do *not* remit to subclinical levels during the follicular phase (Eisenlohr-Moul, Girdler, et al., 2016; O'Brien et al., 2011). This leaves a substantial group who experience pronounced cyclical symptom worsening in the context of an ongoing psychiatric disorder, a pattern termed PME. PME refers to the premenstrual intensification of symptoms associated with an underlying condition, such as MDD. Similar to PMDD, PME is not thought to reflect abnormal hormone production. Rather, cyclical symptom worsening is generally understood to occur in the context of normative hormonal fluctuations interacting with the underlying psychiatric disorder. However, compared to PMDD, the neuroendocrine mechanisms underlying PME remain less well studied.

In a recent review of the literature, we identified evidence from prospective studies indicating that clinically meaningful PME occurs across a range of psychiatric disorders, including MDD, borderline personality disorder, bipolar disorder, panic disorder, eating disorders and schizophrenia or other psychotic disorders (Nolan & Hughes, 2022). PME appears particularly prevalent in MDD, with one large community-based prospective study reporting rates as high as 60% (Bengi et al., 2025; Hartlage et al., 2004; see also Figure 3b for an illustrative trajectory). Given its high prevalence across psychiatric populations, clinicians in general psychological services are likely to encounter clients who experience PME.

Beyond PMDD and PME: The dimensional affective sensitivity to hormones approach

Although research on menstrual cycle-related psychopathology has largely focused on symptoms emerging or worsening in the premenstrual or perimenstrual phases (primarily through the clinical

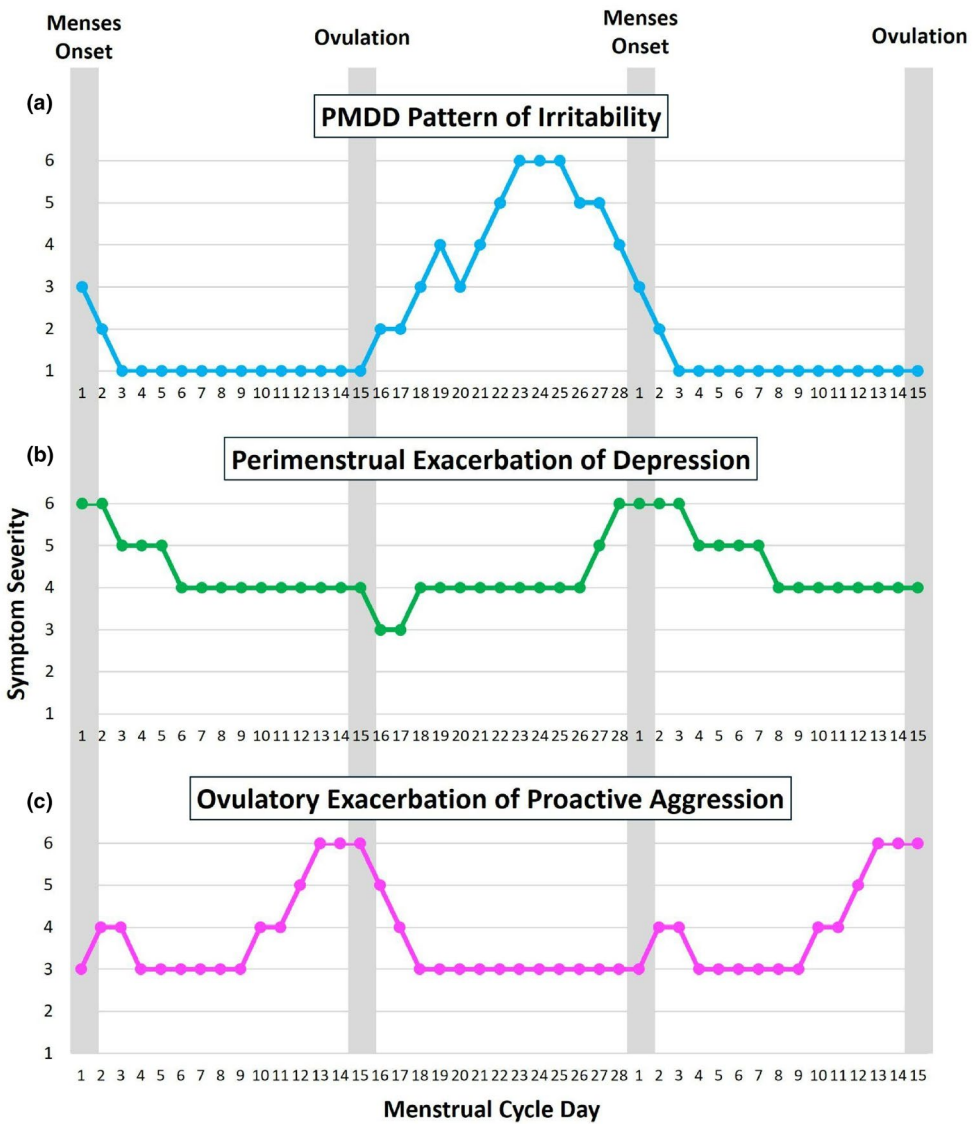


FIGURE 3 Examples of different symptom trajectories across the menstrual cycle. Symptoms are plotted across 1.5 menstrual cycles, assuming a 28-day cycle with ovulation on day 15. The y-axis reflects daily ratings on a typical 6-point scale ranging (1-not at all; 6-extreme). (a) *PMDD pattern of irritability*: Symptoms rise after ovulation, peak premenstrually and remit to minimal or absent after menses onset. (b) *Perimenstrual exacerbation of depression*: A symptom consistently present (e.g., in MDD) that worsens around menses onset and returns to baseline in the mid-follicular phase. (c) *Ovulatory exacerbation of proactive aggression*: A symptom present throughout the cycle (e.g., in borderline personality disorder) that shows worsening around ovulation.

constructs of PMDD and PME), growing evidence suggests that cycle-related symptom patterns are more heterogeneous than current diagnostic frameworks capture. Some individuals report clinically significant symptoms during less traditionally recognized phases, such as the early-to-mid follicular or perioovulatory phases.

To address this gap, Peters et al. (2025) proposed the *Dimensional Affective Sensitivity to Hormones across the Menstrual Cycle* (DASH-MC) framework. This model encompasses PMDD, PME and perioovulatory phenotypes (Figure 3) and details how distinct hormonal shifts across the menstrual cycle may trigger or exacerbate transdiagnostic psychiatric symptoms in hormone-sensitive individuals. Specifically,

luteal-onset symptoms (Figure 3a) may relate to fluctuations in progesterone (P4) metabolites (e.g., allopregnanolone), perimenstrual symptoms (Figure 3b) to oestrogen (E2) withdrawal or depletion, and periovulatory symptoms (Figure 3c) to rapid E2 increases. The authors suggest that individuals may exhibit sensitivity to one or more of these hormonal patterns and acknowledge that additional sensitivity types may yet be identified (Peters et al., 2025).

We strongly recommend the DASH-MC paper to readers interested in a deeper understanding of emerging science on hormone-sensitive symptom patterns across the menstrual cycle. While it provides a detailed account of the underlying neurobiological mechanisms, its central clinical implication is the need to broaden assessment beyond the premenstrual window. For some individuals, symptoms may emerge or worsen during other cycle phases, including the periovulatory phase, which has been linked to increased alcohol use (Barone et al., 2023), impulsivity, risk-taking and aggression states (Peters et al., 2020; Figure 3c). Adopting a dimensional, hormone-sensitivity framework such as the DASH-MC may therefore enhance clinicians' ability to identify, formulate and treat menstrual cycle-related symptom patterns that are not well explained by traditional premenstrual models.

WHAT CAUSES THESE SYMPTOMS IN AFFECTED INDIVIDUALS: BIOPSYCHOSOCIAL CONSIDERATIONS

A biopsychosocial framework provides a comprehensive lens for understanding the etiological factors underlying PMDD. While the DSM-5 outlines a specific constellation of symptoms, the manifestation of PMDD is notably heterogeneous across individuals. Variability exists not only in the type and severity of symptoms but also in their timing and cyclical patterns. For instance, one individual may receive a diagnosis based on primary menstrual cycle-related changes in irritability and anger, whilst another may receive a diagnosis based on primary menstrual cycle-related changes in depression and hopelessness. As with other mental health disorders, symptom expression is influenced by a complex interplay of biological, psychological and social factors, shaped by each individual's unique life history, current circumstances and prior experiences.

Biological factors

Although multiple biological systems are implicated in the pathophysiology of PMDD, this section focuses primarily on ovarian steroid hormones because they represent the most robust and well-characterized biological trigger of symptom onset. Converging experimental and longitudinal evidence demonstrates that cyclical fluctuations in E2 and P4 are necessary for the emergence of PMDD symptoms. However, ovarian hormones do not act in isolation. Genetic vulnerability, epigenetic regulation, neurotransmitter systems (particularly gamma-aminobutyric acid (GABA)ergic and serotonergic pathways) and stress-response mechanisms likely moderate individual sensitivity to hormonal changes (Hantsoo & Payne, 2023). Thus, PMDD is best understood as a disorder of differential neurobiological sensitivity to normal hormonal fluctuations, embedded within a broader biological context.

As outlined in the preceding sections, multiple studies have shown that PMDD is not associated with abnormal circulating levels of ovarian hormones, indicating that it is not the result of dysfunction in the endocrine system (Gehlert et al., 2009; Schmidt et al., 1998). Rather, current evidence supports the view that individuals with PMDD exhibit an altered neurobiological sensitivity to normal cyclical fluctuations in ovarian steroid hormones, including E2, P4 and P4 metabolites, across the menstrual cycle, particularly in the luteal phase (Dubey et al., 2017; Schmidt et al., 1998; Wei et al., 2025). These hormonal sensitivities differ across individuals and are mediated by distinct neurobiological processes, whose full detailing lies beyond our scope here, but are richly characterized in the DASH-MC (Peters et al., 2025).

The most well-studied form is luteal-phase sensitivity, which consists of atypical affective responses to the usual early to mid-luteal surges in P4 and E2, especially via neuroactive metabolites of P4, such

as allopregnanolone (ALLO). Altered GABA-A receptor plasticity in response to cyclical ALLO fluctuations is considered a key mechanism (Hantsoo & Payne, 2023). This vulnerability is believed to drive symptom emergence in a large proportion of individuals meeting DSM-5-TR criteria for PMDD. Clinically, this luteal sensitivity manifests in a constellation of emotionally and physiologically reactive symptoms, including irritability, stress sensitivity, somatic anxiety, mood lability, rejection sensitivity and reactive aggression. These symptoms tend to peak in the mid-luteal and premenstrual phases (Eisenlohr-Moul et al., 2019). Although this timing aligns with the peak and fall of E2 and P4 levels, they likely represent a delayed response to the early luteal P4 surge (Peters et al., 2025).

In contrast, a distinct hormone sensitivity profile is hypothesized for perimenstrual-onset symptoms, oriented more around depressed mood and cognitive dysfunction. This profile appears to include symptoms such as depressed mood, anxiety, anhedonia, suicidal thoughts and behaviours and difficulties with attention, memory and learning. In this pattern, suicide risk appears to peak during the late luteal and early follicular phases. Although their timing coincides with the rapid withdrawal and low levels of E2 and P4, these symptoms are likely driven by E2 withdrawal and depletion (Peters et al., 2025). Risk typically diminishes during ovulation and the early-to-mid-luteal period. Crucially, these perimenstrual symptoms often emerge in response to hormone withdrawal and may persist into the early follicular phase, thus distinguishing them from the more circumscribed luteal symptoms of P4 surge sensitivity.

Finally, a third but less-studied profile is periovulatory-onset sensitivity, reflecting reactivity to rapid increases in E2. This sensitivity is hypothesized to be characterized less by emotional and cognitive vulnerability and more by appetitive, drive-related behaviours, such as alcohol misuse, impulsivity and proactive aggression (Peters et al., 2025).

Psychological and social factors

Although biological sensitivity to cyclical hormone changes, such as luteal-phase P4 surges, underlies core features of PMDD, symptom expression varies considerably across individuals. Identical hormonal trajectories can produce different clinical patterns (e.g., irritability versus depression), suggesting that genetic, psychological and environmental factors shape how hormone sensitivity manifests. In other words, hormone sensitivity represents a shared biological vulnerability, but its clinical expression may be modulated by individual risk and resilience factors.

Trauma and chronic psychosocial stress are major determinants of this variability, consistently linked to higher prevalence and severity of PMDs (Bencker et al., 2025; Eisenlohr-Moul, Rubinow, et al., 2016; Grewal et al., 2025). These associations span diverse trauma types, including childhood sexual abuse, emotional neglect and adult interpersonal violence, and across developmental periods. Different trauma exposures may also predict distinct hormone-symptom relationships: physical abuse has been linked to stronger associations between P4 and multiple daily symptoms, whereas sexual abuse predicts stronger links between E2 and anxiety (Eisenlohr-Moul, Rubinow, et al., 2016). Similarly, individuals with PMDD and higher cumulative childhood adversity show more pronounced increases in negative affect and decreases in positive affect from the follicular to late luteal phase (Nayman et al., 2023).

Recent research further supports a developmental stress-sensitization model. In a transdiagnostic outpatient sample with past-month SI, greater lifetime stress exposure predicted larger perimenstrual increases in negative affect, passive and active SI, particularly for stressors occurring before menarche (Nagpal et al., 2024). Interpersonal loss stressors, such as bereavement or relationship disruptions, also predicted greater perimenstrual affective changes. Trauma may influence menstrual-cycle-related affective reactivity via GABAergic and serotonergic dysregulation, helpfully summarized by Hantsoo and Epperson (2020). Finally, even in the absence of major adversity, stable psychological characteristics can shape hormone sensitivity. For example, neuroticism, a general tendency towards emotional distress, has been linked to greater susceptibility to hormone-triggered mood changes in non-clinical samples (Stenbæk et al., 2019), indicating that normative personality traits can amplify the emotional impact of hormonal fluctuations.

Together, these findings underscore the importance of a biopsychosocial framework in understanding and treating PMDs. Clinicians in both trauma-focused and general mental health settings should recognize that trauma histories confer elevated risk. Routine screening for premenstrual symptomatology and the implementation of trauma-informed, individualized care are critical for effective assessment and treatment planning.

TREATMENT APPROACHES FOR PREMENSTRUAL DISORDERS

Evidence-based medical guidelines for PMDs should be clearly communicated to clients to support informed decisions (Yonkers & Simoni, 2018). The International Association for Premenstrual Disorders (IAPMD) has developed a patient-friendly eBook of treatment options, which is available online: <https://www.iapmd.org/shop/p/pmdd-treatment-options>. The main treatment options are also summarized in Table 1. The treatment for premenstrual disorders is a dynamic and evolving field and readers are encouraged to refer to recent guidance by the American College of Obstetricians and Gynecologists (ACOG, 2023). This guidance provides an overview of treatment recommendations and explicitly classifies their strength and the quality of supporting evidence (e.g., SSRIs are a *strong recommendation* supported by *moderate* quality evidence).

Despite the availability of effective treatments, clinical awareness of PMDs remains limited, often leading to delayed diagnosis and inadequate care, which contributes to prolonged distress and suboptimal treatment outcomes for many patients (Funnell et al., 2024; Hantsoo et al., 2022). Psychologists play a key role in addressing this gap by facilitating access to appropriate medical care and encouraging clients to consult licensed psychiatrists or gynaecologists regarding treatment options. However, accurate diagnosis is the essential first step in PMD management before any pharmacological or surgical interventions are considered. This requires a comprehensive assessment and careful differential diagnosis, areas where clinical psychologists are uniquely positioned to contribute. Best-practice assessment recommendations are provided in Section 5.

PME of underlying psychiatric disorders adds clinical complexity, requiring management that addresses both the primary disorder and cyclical symptom intensification (Kulkarni & Mu, 2025). Cyclical variations in pharmacokinetics may contribute to PME among individuals taking psychotropic medications; for example, lower perimenstrual drug serum levels have been linked to symptom worsening. This has been demonstrated in PME of bipolar disorder, where decreased luteal-phase serum lithium levels were associated with premenstrual symptom exacerbation (Carmassi et al., 2019). This is particularly relevant for clinicians in general psychological services, given the growing prevalence of psychotropic medication use in the general population (Forsslund et al., 2020; Moore & Mattison, 2017; Tomba et al., 2018). When PME is identified, treatment planning should involve collaboration with psychiatrists, general practitioners or other prescribers to ensure coordinated care. A detailed summary of pharmacological options, including premenstrual dose adjustments, is provided by Lin et al. (2024).

RECOMMENDATIONS FOR PSYCHOLOGICAL PRACTICE

Evidence-based psychological interventions, particularly Cognitive Behavioural Therapy (CBT), can reduce functional impairment, symptom intensity and disability in PMDD (Weise et al., 2019), yet they remain underutilized in clinical practice. Access is especially limited in public health systems, such as the UK's National Health Service (NHS), where specialist PMD services are scarce. Enhancing menstrual cycle literacy among clinical psychologists is a critical step towards more equitable, informed care.

The clinical neglect of PMDs, largely driven by limited education and diagnostic visibility, has led to prolonged delays, frequent misdiagnoses and patient dismissal (Funnell et al., 2025). PME can further disrupt psychological treatment, often manifesting as sudden symptom worsening or SI without clear

TABLE 1 The main treatment approaches for Premenstrual Dysphoric Disorder (PMDD).

Treatment	Description	Mechanism of action	Additional notes
Psychoeducation and lifestyle modification	Individualized education about PMDD; regular exercise; balanced diet; sleep hygiene; stress management; menstrual tracking	Enhances self-awareness, supports symptom monitoring and facilitates engagement with evidence-based interventions	Evidence for lifestyle modifications and psychoeducation as stand-alone treatments for PMDD is currently limited. Several clinical guidelines primarily recommend these approaches as complementary, to be offered in addition to other evidence-based treatments, or as general advice (see The Royal College of Obstetricians and Gynaecologists (RCOG), 2017; NICE, 2024; ACOG, 2023). This is largely owing to the low quality of available evidence. Notably, much of the available research focuses on PMS with comparatively little evidence for PMDD. Nevertheless, if these modifications are integrated into a broader PMDD treatment plan, they are unlikely to cause harm and may be beneficial. Clinicians are encouraged to refer to treatment guidelines
Cognitive behavioural therapy (CBT)	Structured psychological intervention focused on cognitive restructuring and behavioural coping strategies	Improves coping, reduces symptom-related distress and functional impairment	Considered a first-line treatment (Yonkers et al., 2015). Unlike their delayed onset in major depressive or anxiety disorders, SSRIs demonstrate a more rapid therapeutic effect in PMDD (Freeman et al., 1999; Pearlstein & Steiner, 2008; Steiner et al., 1995). Consequently, treatment may be administered either continuously throughout the menstrual cycle or intermittently, beginning approximately 14 days before menses or at the onset of symptoms and discontinued at menstruation. A Cochrane review found SSRIs effective in alleviating premenstrual symptoms under both dosing regimens but reported that continuous treatment is likely more effective (Jespersen et al., 2024). Patient preference should guide regimen selection. Unwanted side effects are common and should be discussed prior to treatment initiation; nausea, a lack of energy and having a strong desire to sleep are most often reported (Jespersen et al., 2024)
Selective serotonin reuptake inhibitors (SSRIs)	Fluoxetine, Sertraline, Paroxetine, Citalopram, Escitalopram Optional schedules: Continuous, luteal-phase or symptom-onset dosing	Normalizes premenstrual serotonin levels and modulates neurosteroids metabolism	Considered a first-line treatment option (de Wit et al., 2021; Hammarböök et al., 1991). The most effective formulation for PMDD appears to be Drospirenone combined with ethinyl estradiol, administered in a regimen with a shortened hormone-free interval (four days rather than the conventional seven; (Lopez et al., 2012; Yonkers et al., 2005)). However, COCs may induce adverse mood effects, particularly in individuals with prior mood, anxiety or eating disorders. Moreover, COCs are contraindicated for individuals planning pregnancy or with medical conditions such as a history of thromboembolic or cardiovascular disease (including migraine with aura, smoking or hypertension in those over 35), or with breast or other oestrogen- or progestin-sensitive neoplasms. This underscores the importance of personalized, patient-centred treatment selection based on psychiatric history, medical comorbidities, and reproductive goals
Combined oral contraceptives (COCs)	Drospirenone with Ethinylestradiol Schedule: 24 active days followed by a 4-day hormone-free interval (pill free days) Noregestrol acetate with 17-beta estradiol Schedule: 21 active days followed by a 7-day hormone-free interval (pill free days) Levonorgestrel with Ethinylestradiol Schedule: continuous without hormone (pill free) interval	Suppresses ovulation and stabilizes cyclical hormonal fluctuations	Note: SSRIs generally demonstrate greater efficacy in symptom reduction compared to Drospirenone-containing COCs (Berni et al., 2026). Nevertheless, both are regarded as first-line treatments for PMDD reflecting evidence supporting the effectiveness of both approaches (Ma & Song, 2023). The availability of multiple effective options allows for individualized treatment which considers contraindications, reproductive planning and tolerability

(Continues)

TABLE 1 (Continued)

Treatment	Description	Mechanism of action	Additional notes
Gonadotropin-releasing hormone (GnRH) analogs with Stable Hormone (E2/P4) Add-Back	Leuprolide acetate injection with E2/P4 add-back therapy	Induces a reversible hypoeostrogenic state by suppressing ovulation; add-back therapy maintains bone, heart and brain health	In severe or treatment-resistant cases, continuous administration of gonadotropin-releasing hormone (GnRH) agonists may be employed to suppress ovarian E2 production and ovulation. Comprehensive clinical materials, such as patient and provider handouts, screening tools and treatment algorithms, have recently been made available (Wagner-Schuman et al., 2023). A key takeaway for clinicians is that, when pursuing GnRH-agonist treatment, addback therapy with exogenous E2 and P4 is essential to maintain bone, heart and brain health. This hormonal reintroduction typically triggers a temporary resurgence of PMDD symptoms due to the abrupt hormonal shift; however, these symptoms typically remit after approximately one month of stable high hormone levels
Total abdominal hysterectomy with bilateral Salpingo-oophorectomy (TAH-BSO) with E2 add-back	Definitive surgical intervention with postoperative oestrogen replacement therapy	Eliminates ovarian hormonal cycling and related symptom fluctuations; typically reserved for severe, refractory cases	In very severe, refractory cases, surgical intervention, such as total hysterectomy with bilateral oophorectomy, may be considered to eliminate menstrual cyclicity. Such procedures are typically preceded by a trial of GnRH agonists to ensure that the patient is likely to benefit from definitive treatment. However, clinicians should carefully weigh potential risks, including surgical complications and the potential long-term health consequences of premature surgical menopause, such as vasomotor symptoms, bone loss and increased cardiovascular risk, even when postoperative oestrogen replacement therapy is provided (Faubion et al., 2015; Reid, 2012)

triggers. Clinicians' hesitancy to address menstrual cycle factors is understandable, given the absence of national guidance on recognition and management. The recommendations below aim to support clinicians in improving detection, delivering psychoeducation and developing informed treatment plans for clients experiencing menstrual cycle-related symptom fluctuations.

Designed for psychologists working in general mental health settings, such as Child and Adolescent Mental Health Services (CAMHS), Talking Therapies (formerly known as Improving Access to Psychological Therapies/IAPT) and Community Mental Health Teams (CMHTs), these recommendations focus on identifying PMDs alongside the presenting disorder. Identification of PMDD/PMS and PME requires distinct clinical considerations. PMDD/PMS is identified through recognition of the cyclical onset and cessation of symptoms as well as differentiation from primary mood disorders (e.g., PMDD versus bipolar disorder) or recognition as a comorbid condition (e.g., PMDD and bipolar disorder). By contrast, PME is identified through recognition of cyclical exacerbation of an established disorder. The guidance below applies across presentations and promotes timely recognition, validation and integrated management of menstrual cycle-related distress.

Assessment and monitoring

Psychological assessments for individuals of reproductive age should routinely include an exploration of menstrual and reproductive history. Key areas to explore include age at menarche, cycle regularity and past mood or behavioural changes associated with reproductive events such as adolescence, the perinatal period or hormonal contraception use. Clinicians should also ask directly whether clients notice emotional, cognitive or behavioural fluctuations that correspond with different phases of their menstrual cycle.

While retrospective screening tools, such as the Premenstrual Symptoms Screening Tool (PSST; Steiner et al., 2003), are widely used as initial screening instruments to identify individuals who may have clinically significant premenstrual symptoms, they have important limitations. Retrospective symptom ratings or assessments of PMDD criteria, including single-time-point surveys or interviews, are prone to recall bias and false positives, performing no better than chance in detecting true cyclical symptom patterns measured by daily ratings (Eisenlohr-Moul, 2021; Eisenlohr-Moul, Girdler, et al., 2016; Gehlert et al., 2009). This discrepancy is illustrated strikingly by a recent meta-analysis on PMDD prevalence, which found that studies relying on prospective diagnosis yielded a pooled prevalence estimate of 3.2%, whereas studies using retrospective assessment produced more than double that rate (7.7%; Reilly et al., 2024). The validity of retrospective methods in identifying cyclical symptom patterns related to PME also remains underexplored but is likely to be similarly limited.

Given these challenges, clinicians should know that the diagnostic gold standard for both PMDD and PME is prospective, within-person daily symptom tracking across at least two menstrual cycles. This method enables reliable identification of symptom timing, pattern and severity in relation to hormone changes and is therefore essential for accurate diagnosis and treatment planning. Validated tools for daily symptom tracking include the Daily Record of Severity of Problems (DRSP; Endicott et al., 2006) in Table 2, available for free download via the IAPMD website (<https://www.iapmd.org/shop/p/iapmd-pmds-symptom-tracker?srsId=AfmBOor1eYzUXzkkZ3avfB14DAn2GnUAeW2v-rfHSZuw6d7oj3Uq6TBM>). Digital alternatives, such as the Belle Health app (<https://bellehealth.co/>) may also be preferred by clients.

Prospective daily symptom ratings can be difficult to interpret without structured scoring procedures. Automated scoring systems can therefore assist clinicians in evaluating daily ratings alongside clinical interview data when assessing for PMDD. The Carolina Premenstrual Assessment Scoring System (C-PASS; Eisenlohr-Moul, Girdler, et al., 2016) is a validated scoring protocol that standardizes the application of DSM-5 PMDD diagnostic criteria using two or more months of daily symptom ratings from DRSP (Endicott et al., 2006). Free resources are available in multiple formats:

TABLE 2 Items from the Daily Record of Severity of Problems (DRSP).

1a.	Felt depressed, sad, 'down' or 'blue'
1b.	Felt hopeless
1c.	Felt worthless, or guilty
2.	Felt anxious, tense, 'keyed up' or 'on edge'
3a.	Had mood swings (e.g., suddenly felt sad or tearful)
3b.	Was more sensitive to rejection or my feelings were easily hurt
4a.	Felt angry, irritable
4b.	Had conflicts or problems with people
5.	Had less interest in usual activities (e.g., work, school, friends, hobbies)
6.	Had difficulty concentrating
7.	Felt lethargic, tired, fatigued or had a lack of energy
8a.	Had increased appetite or overate
8b.	Had cravings for specific foods
9a.	Slept more, took naps, found it hard to get up when intended
9b.	Had trouble getting to sleep or staying asleep
10a.	Felt overwhelmed or that I could not cope
10b.	Felt out of control
11a.	Had breast tenderness
11b.	Had breast swelling, felt 'bloated' or had weight gain
11c.	Had headache
11d.	Had joint or muscle pain
	At work, at school, at home or in daily routine, at least one of the problems noted above caused reduction of productivity or inefficiency
	At least one of the problems noted above interfered with hobbies or social activities (e.g., avoid or do less)
	At least one of the problems noted above interfered with relationships with others

- R package (<https://github.com/lasy/cpass>)
- SAS Macro (<https://uofi.box.com/s/p65y9vxat7baqvo8ouymvaujdgixc86>)
- Excel Macro (<https://uofi.box.com/s/7j9vs7r4sedhzbyr6vpzwwjgis80bhuxk>)
- Worksheet (<https://uofi.box.com/s/kik8jhztid5dch1q3ibh6kq6x8l1u71a>)

In addition to diagnostic scoring tools, visualization tools may help clinicians explore symptom patterns across the menstrual cycle. The *menstrualcycleR* package (<https://eisenlohrmoullab.github.io/menstrualcycleR/articles/menstrualcycleR-overview.html>) provides tools for modelling menstrual cycle phase as a continuous variable and is primarily intended for research applications rather than diagnostic use. However, clinicians may find the accompanying *menstrual cycle Shiny app* (<https://menstrualcycledata.shinyapps.io/shiny/>) particularly useful for generating individualized symptom graphs when menstrual or ovulation dates are available to anchor daily symptom reports (Nagpal et al., 2025).

Although DSM-5 diagnostic criteria for PMDD provide important guidance, clinicians should be aware of several considerations when interpreting prospective symptom data. It is important to note that while a 30% premenstrual elevation/change in symptom severity is generally used as the threshold for diagnostic classification, clinical judgement remains essential. Individuals presenting with subthreshold cyclical changes may still experience clinically significant distress or impairment, warranting recognition and potential intervention. In such cases, clinicians should integrate quantitative findings with the client's subjective experience and functional impact to inform case formulation and treatment planning.

Similarly, the five-symptom threshold for PMDD diagnosis may be overly stringent, with evidence showing that four, rather than five, symptoms best predict clinically significant impairment across relational, occupational and recreational domains (Schmalenberger et al., 2017). Finally, prospective studies indicate that not all individuals exhibit complete postmenstrual symptom remission, suggesting that clinicians should also consider variability in follicular symptom clearance when interpreting prospective symptom patterns (Eisenlohr-Moul et al., 2020).

For PME, clinicians may administer disorder-specific outcome measures (e.g., Patient Health Questionnaire-9 (PHQ-9) for depression (Kroenke et al., 2001), Generalized Anxiety Disorder Assessment (GAD-7) for anxiety (Spitzer et al., 2006), Obsessive Compulsive Inventory – Revised (OCI-R) for obsessive compulsive disorder (Foa et al., 2002), or Impact of Event Scale – Revised (IES-R) for post-traumatic stress disorder (Weiss, 2007)) at multiple time points across the menstrual cycle to identify cyclical patterns in symptom severity. Collaboratively developed, idiographic daily measures can also be valuable for capturing individual symptoms not reflected in standardized tools, such as the number of panic attacks, flashbacks, urges to self-harm or sleep disturbances. Clinicians should be aware of the reference period or timeframe specified within standardized questionnaires (e.g., last 2 weeks). To more precisely capture changes corresponding with cyclical hormone variations, adaptations to these reference periods are recommended (e.g., past 24h). This should be informed by the assessment objective (e.g., identification of daily, weekly or phase-specific symptom severity) which may be limited by the frequency of measurements that can realistically be administered in clinical practice. Notably, such adaptations may lack the methodological rigour required for research but are a pragmatic workaround for the purpose of clinical assessment.

While clinicians are not expected to engage in extensive analysis of daily data, periodic review of mood and symptom-tracking information can meaningfully validate clients' lived experiences, enhance both clinician and client awareness of cyclical patterns and support shared decision-making. Reviewing such data can also clarify when referral to a GP or reproductive mental health specialist is warranted, particularly in cases involving severe, clearly cyclical or functionally impairing symptoms.

Identifying cycle phase

To obtain meaningful data across the menstrual cycle, clinicians and clients should establish a shared understanding of how to track symptoms, cycle timing and phases. [Table 3](#) presents key principles for integrating menstrual cycle tracking into clinical practice.

Providing evidence-based psychoeducation

Psychoeducation is a foundational component of care for all individuals with mental health difficulties, including those experiencing PMDs (see ACOG, 2023). It can be profoundly validating, particularly for those who have endured years of misdiagnosis, minimization or internalized stigma. By promoting understanding, reducing shame and supporting engagement with both psychological and medical treatment, effective psychoeducation lays the foundation for meaningful care. Clinicians should aim to balance validation with appropriate normalization: while it is essential to take cyclical distress seriously, mild to moderate emotional variability across the menstrual cycle is common and not inherently pathological. Framing symptoms within a compassionate biopsychosocial model, acknowledging biological sensitivity, psychological processes and contextual influences, can reduce stigma, enhance self-understanding and foster a greater sense of agency in clients. Core components of psychoeducation are outlined in [Table 4](#), which also includes links to patient-friendly resources from the IAPMD website that clinicians can use in-session or recommend for between-session reading.

TABLE 3 Guidance on tracking symptoms across the menstrual cycle.

Key principles for tracking	Guidance
Track daily for at least two full cycles	Use validated tools such as the DRSP or other structured daily symptom diaries to capture within-person variability
Define the cycle's start and end points	Day 1 of the menstrual cycle is the first day of bleeding, and the cycle ends on the day before the next period begins
Calculate the cycle length	Start dates (i.e., first day of bleeding) and end dates (i.e., the last day before the subsequent onset of bleeding) allow for calculation of the individual's average cycle length (e.g., 25, 28 or 32 days). Note that healthy cycle lengths (in the sense that they would support a pregnancy) can range from 21 to 35 days (Fehring et al., 2006; Long, 1990)
Estimate ovulation	Because the luteal phase is relatively consistent in length (~14 days), an individual's day of ovulation can be estimated by subtracting 14 days from the last day of the cycle. Ovulation is thus considered to occur on cycle day -15 relative to the next menstrual onset (Schmalenberger et al., 2021) However, cycle length variability can lead to misalignment when ovulation is inferred solely by backward counting. Where feasible, biological confirmation methods may improve accuracy, including urinary luteinizing hormone (LH) testing and basal body temperature (BBT) tracking (Nagpal et al., 2025), or gynaecological ultrasound (Su et al., 2017). In clinical practice, LH tests and BBT tracking are the most feasible self-monitoring approaches, whereas ultrasound confirmation is typically limited to specialized clinical settings Note that symptom expression may also differ between ovulatory and anovulatory cycles, further supporting the value of confirming ovulation when interpreting cyclical symptom patterns
Understand day-to-phase correspondence	Because cycle length varies both within and between individuals, specific days (e.g., Day 14) do not consistently correspond to the same physiological phase for every person or for every cycle. For instance, Day 14 may reflect ovulation in a 28-day cycle, but the mid-luteal phase in a 21-day cycle and the mid-follicular phase in a 35-day cycle (Schmalenberger et al., 2021)
Identify phases and symptom patterns	Once the average cycle length is known, clinicians can estimate the day of ovulation and approximate the follicular, ovulatory, luteal and menstrual phases, and determine where symptoms begin, worsen or cluster
Determine an individual 'baseline'	There is no universal baseline phase for cyclical symptoms (i.e., a phase that is universally characterized by minimal symptoms). This must be determined for each person. Some individuals experience minimal cyclical changes, while others show distinct worsening or improvement during particular phases (Schmalenberger et al., 2021)

PSYCHOLOGICAL TREATMENT INTERVENTIONS

Psychological therapies represent an important evidence-based adjunct to pharmacological treatment for PMDD, and a standalone alternative for individuals who prefer non-pharmacological options. Among these, CBT has the strongest empirical support for reducing premenstrual symptoms and functional impairment (Busse et al., 2009; Carlini et al., 2022; Hunter et al., 2002; Kancheva Landolt & Ivanov, 2021; Kleinstäuber et al., 2012; Lustyk et al., 2009). CBT for PMDD typically aims to reduce functional impairment and improve quality of life by targeting the cognitive, behavioural and emotional processes that intensify distress during symptomatic phases. Core components include cognitive restructuring, strengthening adaptive coping strategies, behavioural activation and stress-management skills. Some protocols also incorporate lifestyle elements, such as physical activity, nutrition and sleep hygiene, which may indirectly support symptom reduction and improved well-being.

Although symptom improvement may emerge more slowly than with SSRIs, CBT appears to yield more durable benefits, particularly in coping and functional recovery (e.g., Kleinstäuber et al., 2012).

TABLE 4 Core Components of Evidence-Based Psychoeducation for Individuals experiencing PMDs.

Core psychoeducation topics	Key content to cover	Helpful educational materials/resources
Overview of the menstrual cycle	Explain the cycle's phases, hormonal patterns and common physiological changes	https://www.iapmd.org/menstrual-cycle-pmds
Current working model of hormonal sensitivity	Discuss how PMDs arise not from abnormal hormone levels but from an increased sensitivity of the brain and body to normal cyclical hormonal fluctuations	
Distinction between PMDD, PMS, PME, and non-clinical premenstrual experiences	Clarify when emotional or behavioural changes become clinically significant	https://www.iapmd.org/what-are-pmds https://www.iapmd.org/pmdd https://www.iapmd.org/pmdd-not-pms
Common psychosocial risk factors	Highlight the role of trauma exposure, chronic stress and psychosocial adversity in increasing vulnerability to PMDs. This helps clients situate their experience within a biopsychosocial rather than a purely biological or personal framework	
Support and further resources	Direct clients to reputable organizations such as the International Association for Premenstrual Disorders (IAPMD) and the National Association for Premenstrual Syndromes (NAPS). Both offer peer support, educational materials, webinars and evidence-based treatment guides	https://www.iapmd.org/ https://www.pms.org.uk

Meta-analytic evidence further suggests that these benefits generalize across cultures (Shariati et al., 2019). Reflecting this support, ACOG and RCOG recommend CBT as part of routine care for premenstrual affective symptoms (Yonkers et al., 2023; ACOG, 2023; BJOG, 2017; RCOG, 2017) although evidence for improvements in physical symptoms remains limited (Lustyk et al., 2009). Importantly, both organizations emphasize the value of a multidisciplinary approach, as neither pharmacological nor psychological treatments alone are typically sufficient (Kleinstäuber et al., 2012).

Despite its promise, the CBT literature is limited by small samples, heterogeneous protocols, retrospective symptom reporting and insufficient reliance on prospective daily ratings. These limitations reduce diagnostic precision and make it difficult to determine whether CBT effectively targets PMDD-specific features such as emotional lability, anger and suicidality. Accordingly, well-powered, methodologically rigorous trials using validated diagnostic tools and prospective assessments are urgently needed to clarify the specific efficacy and mechanisms of CBT across distinct PMD presentations.

Emerging models suggest that augmenting CBT with structured emotion regulation and interpersonal skills, often drawn from Dialectical Behaviour Therapy (DBT), may more directly address core PMDD mechanisms, including affective instability and rejection sensitivity (Schmalenberger et al., 2017). This approach is supported by accumulating evidence that individuals with PMDD or severe PMS exhibit greater emotion regulation difficulties than asymptomatic controls and tend to rely on maladaptive strategies such as rumination (Lambert et al., 2025). Several DBT-informed, cycle-sensitive protocols are currently under development, marking a promising next step towards personalized mechanism-focused psychological interventions for PMDD.

For individuals with PME, psychological interventions must address both the underlying disorder and its cyclical exacerbation. Adaptations that incorporate cycle tracking, phase-specific coping strategies and psychoeducation about hormone sensitivity may enhance engagement and effectiveness within

CBT, DBT or Acceptance and Commitment Therapy (ACT) frameworks (Eisenlohr-Moul et al., 2019; Lin et al., 2024). Given the scarcity of PME-specific guidance, supporting clients in recognizing cyclical patterns and preparing for predictable symptom intensification may meaningfully improve treatment outcomes.

Beyond clinician-guided approaches, self-guided interventions may represent a valuable, accessible and cost-effective complement to care. Recent work highlights emerging programmes for premenstrual mood symptoms that integrate cognitive-behavioural techniques, distress-tolerance skills and psycho-education to support symptom management and interpersonal functioning. One example is *The Thriving with PMDs Program*®, which comprises brief, structured modules (e.g., 5–15-min animated videos) delivering these components in an accessible format. Integrating such interventions into menstrual cycle tracking applications may further enhance their reach and scalability as low-threshold mental health support tools. Further research is needed to evaluate their effectiveness and optimal implementation (Gordon & Chenji, 2025).

TREATMENT PLANNING AND ADAPTATION: WORKING WITH CYCLE SENSITIVITY

Effective psychological interventions for PMDs require cycle-informed planning. This means collaboratively identifying when specific symptoms intensify and adapting interventions accordingly. A flexible, phased approach helps clinicians and clients make best use of symptom-free periods and minimize distress during more symptomatic phases (see Table 5 for key strategies). Above all, adopting a collaborative, compassionate and non-pathologizing stance promotes engagement, reduces shame and self-blame and empowers clients to anticipate and manage cyclical fluctuations with self-efficacy.

A FORMULATION LED APPROACH: EVIDENCE-BASED PSYCHOLOGICAL THERAPIES AND TECHNIQUES

While CBT has shown promise as a treatment for PMDD and PMS, there is currently no standardized or empirically validated psychological formulation or manualized protocol. Therefore, clinicians are encouraged to develop individualized, collaboratively constructed formulations, drawing on established frameworks and empirical case applications (Blake, 1995; Hunter, 2003; Ussher &

TABLE 5 Key cycle-informed strategies to support treatment planning and adaptation for individuals experiencing premenstrual disorders.

Key strategy	How to implement
Symptom mapping	Encourage clients to observe and record which symptoms worsen, when and how. Support them in moving from general statements (e.g., ‘my anxiety gets worse before my period’) to more specific insights (e.g., ‘I notice increased intrusive thoughts and poor sleep starting around day 22’).
Treatment pacing	During asymptomatic or lower symptom phases, focus on higher-intensity or emotionally demanding components of therapy (e.g., imaginal reliving in trauma-focused CBT exposure and response prevention for OCD). During symptomatic phases, shift to consolidation, behavioural activation or relapse prevention work.
Pre-phase planning	Use the week preceding high-symptom phases to review safety plans, strengthen emotion regulation skills and reinforce coping strategies.
Flexible delivery	Adapt practical aspects of therapy to reduce cognitive and emotional load during difficult phases. For example, consider shorter sessions, online appointments or DBT-style phone coaching between sessions.

Perz, 2017; Weise et al., 2019). Formulation should integrate the client's unique symptom patterns, cycle data and treatment goals. This approach allows clinicians to flexibly apply psychological models that best match the dominant symptom processes, in line with a precision method approach (Deisenhofer et al., 2024). For example, traditional Beckian CBT (Beck et al., 1979) may be most suitable when symptoms primarily involve low mood, fatigue, negative automatic thoughts and behavioural withdrawal, whilst DBT principles (Swales et al., 2000) may be more appropriate where there is heightened suicidality, emotional volatility or interpersonal dysregulation during specific phases. This transdiagnostic, formulation-led approach enables clinicians to tailor interventions to each client's cyclical presentation, addressing the full range of affective, behavioural and interpersonal difficulties. It also promotes clinical creativity, responsiveness and dynamic adaptation to fluctuating symptom severity and phase-specific risks, ensuring treatment remains both structured and person-centred.

CBT FORMULATION FOR PMDD

The example in [Table 6](#) and [Figure 4](#) illustrates how a clinician might collaboratively develop a CBT formulation (following the structure by Beck et al., 1979) with a client with PMDD, where low mood and hopelessness represent the primary cyclical affective symptoms. As with all CBT formulations, it is important to anchor the discussion in a specific, recent incident in which the client experienced a distressing event. In practice, clinicians will often begin with a 'vicious flower' model before working backwards to include developmental and core belief components.

DBT FORMULATION FOR PMDD

The example in [Table 7](#) and [Figure 5](#) illustrates how a clinician might collaboratively develop a DBT formulation (following the structure by Linehan, 1993) with a client with PMDD, where irritability, rejection sensitivity and interpersonal conflict represent the primary cyclical affective symptoms. As with all DBT formulations, it is important that the case conceptualization is collaborative, transparent and evolves as treatment progresses (Linehan, 1993).

DEVELOPING A FORMULATION FOR PME

A range of transdiagnostic and disorder-specific psychological processes fluctuate across the menstrual cycle ([Table 8](#)), which may contribute to, trigger or maintain symptom exacerbation at different cycle phases. Identifying these patterns supports clinicians in developing a clear psychological formulation of PME, and many of the involved processes offer actionable intervention targets. As empirical research on PME-specific mechanisms remains limited, the guidance presented here aims to encourage reflective, biopsychosocial thinking and to highlight how biological, psychological and social factors interact across the cycle. [Figure 6](#) illustrates this approach with a focused CBT formulation for PME in obsessive compulsive disorder (OCD), in which the menstrual cycle functions as an external driver of established processes within the model.

SUICIDE RISK AND SAFETY PLANS: A HORMONE-SENSITIVE LENS

Hormone sensitivity should be considered a core risk factor in suicide risk assessment for individuals with PMDD or PME. Suicide risk assessment should therefore routinely incorporate menstrual cycle

TABLE 6 Illustrative CBT formulation for a client with PMDD.

Formulation element	Formulation focus	Treatment target
Early experiences	Explore earlier life events that may have influenced the development of core beliefs or heightened emotional sensitivity	Prioritize validation to reduce shame before progressing to cognitive or behavioural change work
Core beliefs about the self, world and the future	Examine core beliefs about the self, world and the future. These may include beliefs around emotional expression, self-worth or interpersonal acceptance (e.g., <i>'Showing emotion is a weakness'</i> , or <i>'I'm impossible to be around when I'm perimenstrual'</i>)	Use guided discovery and Socratic questioning to examine the origins, evidence and validity of these beliefs. Integrate self-compassion exercises to soften rigid, self-critical cognitions and promote a more balanced and accepting view of the self, world and the future
Rules and assumptions	Identify how core beliefs translate into conditional rules or assumptions (e.g., <i>'I can't go to the party unless I'm in a good mood – everyone will judge me if I'm not'</i>)	Address rules and assumptions through cognitive restructuring and behavioural experiments. Collaboratively test assumptions in-session and between sessions, gathering disconfirming evidence to challenge unhelpful beliefs and promote psychological flexibility
Precipitating and environmental factors	Integrate menstrual cycle sensitivity as a precipitating factor that amplifies specific mood episodes or stress responses	Use cycle tracking to increase self-awareness and link symptom fluctuations to the formulation. Encourage clients to identify patterns, anticipate vulnerable phases and plan self-care and coping strategies proactively
Trigger situation	Identify the specific context or events that precede the onset of negative automatic thoughts, clarifying what happened immediately before the emotional shift	Use activity diaries and daily mood logs to help clients detect early warning signs, situational triggers and environmental stressors. This process enhances self-monitoring and enables more timely coping responses
Automatic thoughts	Elicit and label the automatic thoughts and cognitive biases that occur during symptomatic phases (e.g., <i>'I feel awful; I can't go'</i> followed by rumination or self-criticism such as <i>'Why am I feeling so depressed? I'm such a bad person, no one wants me around.'</i>)	Encourage thought monitoring and cognitive reframing to help clients distinguish <i>'PMDD'</i> thoughts from more stable, non-symptomatic thinking styles. Reinforce mindfulness and cognitive defusion to reduce identification with transient, cycle-related cognitions
Feelings	Explore the emotional responses associated with the specific PMDD episode, such as sadness, shame, irritability or frustration	Encourage emotional labelling and acceptance-based techniques to enhance tolerance of intense affect and reduce secondary shame about mood variability
Physical Symptoms	Note the relevant physiological experiences such as fatigue, lethargy or reduced motivation, and consider how these interact with mood and behaviour	Promote psychoeducation around hormonal sensitivity in premenstrual disorders, normalizing these experiences while identifying modifiable lifestyle factors (e.g., sleep, nutrition and exercise) that can support mood stability
Behaviours	Identify behavioural responses (e.g., avoidance, social withdrawal, inactivity) and explore how these maintain negative affect and reinforce maladaptive cognitions	Implement behavioural activation to increase engagement in small, values-based activities, particularly during symptomatic phases. Collaboratively plan manageable actions that promote a sense of mastery and pleasure. Address avoidance behaviours using behavioural activation and behavioural experiments. Incorporate relapse prevention planning to help clients anticipate cyclical vulnerability, normalize symptom recurrence and apply learned skills proactively

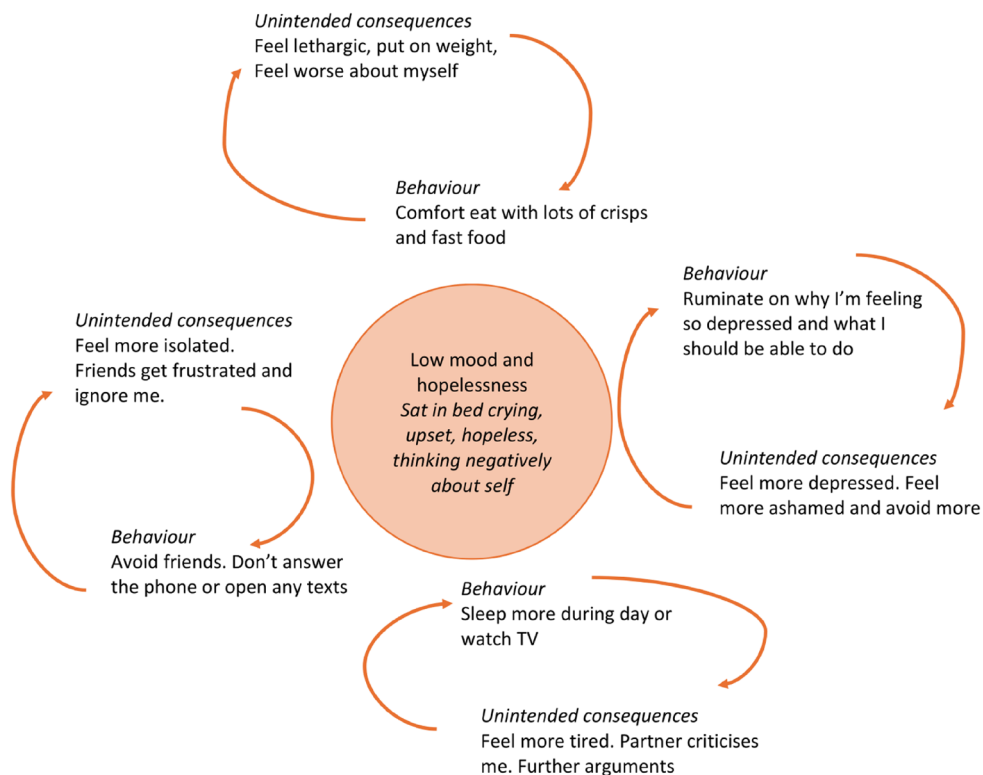


FIGURE 4 A simple ‘here and now’ focused behavioural formulation for an individual with PMDD with predominant low mood and hopelessness, cyclical symptoms.

tracking. For clients with a history of suicidality, session-by-session inquiry into cycle stage and recent symptom changes should become standard practice. Clinicians should identify high-risk windows with each client and collaboratively develop phase-specific safety plans, which may include emotion regulation strategies, cognitive restructuring of hopelessness or self-devaluing beliefs and prioritization of self-care behaviours during symptomatic phases. Notably, suicide risk may not be confined to the symptomatic window: chronic demoralization, anticipatory anxiety or a sense of entrapment due to the cyclical nature of PMDs could contribute to suicidality even during follicular or asymptomatic phases. Clients may feel trapped in a recurring cycle of distress, which is a known risk factor for SI and behaviour (O'Connor & Portzky, 2018), as highlighted in the expanded Integrated Motivational-Volitional (IMV) model of suicidal behaviour in people with PMDD (Riddell et al., 2025). As with other chronic relapsing conditions, ongoing safety planning, not just during crises, is essential. Proactive, formulation-led, cycle-informed care can improve safety, reduce crisis escalation and support long-term psychological well-being. Key clinical recommendations for menstrual cycle-informed suicide risk assessment and safety planning are summarized in Table 9.

WORKING WITH GYNAECOLOGY AND PSYCHIATRY: COLLABORATIVE CARE

PMDs sit at the intersection of gynaecology, psychiatry and psychology, yet no single discipline currently holds clear responsibility for their treatment. This diagnostic ambiguity underscores the importance of interdisciplinary collaboration. Psychologists play a crucial role in coordinating care. Where appropriate, psychologists should liaise with GPs, psychiatrists and gynaecologists to share symptom

TABLE 7 Illustrative DBT formulation for a client with PMDD.

Formulation element	Formulation focus	Treatment target
Five areas of dysregulation	Examine the core domains of dysregulation, paying attention to luteal phase intensification. Explore how emotions (e.g., shame, guilt, sadness or anger) fluctuate across the menstrual cycle, and how over- or under-control of these emotions leads to maladaptive behavioural urges (e.g., withdrawal, impulsivity or interpersonal conflict). Consider how relational dynamics and self-concept may shift during symptomatic phases	Build awareness of phase-related shifts across emotional, behavioural, cognitive, interpersonal and self-regulation domains. Normalize and validate emotional shifts across the menstrual cycle and build motivation to strengthen flexible responding
Client's strengths	Identify current skills, personal strengths and supportive resources that can buffer against symptom escalation during the luteal phase. These may include social support, existing coping strategies or previously learned DBT skills. Highlighting persistence, values and reasons for living reinforces self-efficacy and resilience	Encourage regular use of identified strengths and reinforce effective skill use during the luteal phase. Integrate validation and self-compassion to enhance resilience and counter shame-based self-judgements
Client's barriers	Identify barriers that increase vulnerability to dysregulation, such as high-stress environments, chronic sleep deprivation or limited emotion regulation and interpersonal skills	Develop targeted problem-solving plans to address these barriers, prioritizing those most likely to destabilize mood during the luteal phase (e.g., scheduling rest, increasing skill practice, reducing exposure to invalidating contexts)
Biosocial theory of aetiology	Explore how the client's biological sensitivity and early experiences of invalidation interact to produce current emotion regulation difficulties. Within PMDD, hormonal sensitivity can act as a biological amplifier of this vulnerability, increasing emotional intensity and behavioural reactivity during the luteal phase	Normalize the biosocial model as a compassionate framework, emphasizing that emotional vulnerability is not a personal flaw. Integrate psychoeducation about hormonal sensitivity to contextualize symptoms and promote self-validation
Stages of treatment	Identify the client's current treatment stage based on symptom severity and functional impairment. Clients with severe dysregulation, multiple problem behaviours or significant luteal phase deterioration are best conceptualized as being in Stage 1, focusing on behavioural stabilization and crisis reduction	Prioritize safety, emotional regulation and behavioural control through individual therapy, skills group participation and between-session coaching. As stability increases, transition towards higher treatment stages
Life worth living goals	As in standard DBT, anchor the formulation around developing a life worth living. Define specific, values-based goals that are incompatible with maladaptive behaviours commonly seen during the luteal phase (e.g., avoidance, self-criticism or impulsive reactions)	Support the client in articulating these goals concretely, linking them to day-to-day behavioural choices. Revisit and refine these goals throughout treatment, particularly following each symptomatic phase, to track progress and maintain motivation
Behaviourally defined problems to be addressed	Clearly define the target behaviours that interfere with the client's life worth living goals, particularly those that emerge during symptomatic phases. Common examples include emotion-driven impulsivity, interpersonal conflict, withdrawal or self-critical rumination	Establish clear operational definitions of each problem behaviour and track them across cycle phases to inform the target hierarchy and guide skills practice
Primary targets	Categorize and prioritize problems using the DBT target hierarchy: (1) life-threatening behaviours, (2) therapy-interfering behaviours, (3) quality-of-life-interfering behaviours and (4) behavioural skills to be increased. Luteal phase symptoms may temporarily elevate risk or impairment in these areas	Reduce the first three categories while strengthening skilful behaviours. Link DBT skills directly to symptom triggers, for example, using mindfulness and distress tolerance during irritability spikes or emotion regulation and interpersonal effectiveness when conflict risk is high. Plan additional support or practice during vulnerable phases
Secondary targets	Identify behaviours that maintain or exacerbate primary targets, such as self-invalidation ('I don't deserve to feel better'), avoidance or therapy-interfering patterns that intensify during the luteal phase	Address these through validation, cognitive modification and self-compassion exercises to interrupt cycles of self-criticism and emotional avoidance
Hypotheses about controlling variables	Conduct collaborative behavioural chain analyses to identify contextual and consequential variables that maintain problem behaviours. Examine vulnerability factors (e.g., poor sleep, conflict, stress), prompting events (e.g., perceived rejection), emotion and cognition links and consequences (e.g., relief, attention, reduced guilt). Clarify the function of behaviours and consider how luteal phase vulnerabilities amplify risk	Implement one of five core interventions—problem solving, skills training, cognitive modification, exposure or contingency management. Once a solution is identified, practise it collaboratively and generalize it to other contexts. Secure commitment to new behaviours and anticipate derailment points, particularly during future luteal phases. After the target behaviour is reduced or eliminated, identify a new behaviour and repeat the process to maintain progress across cycle phases

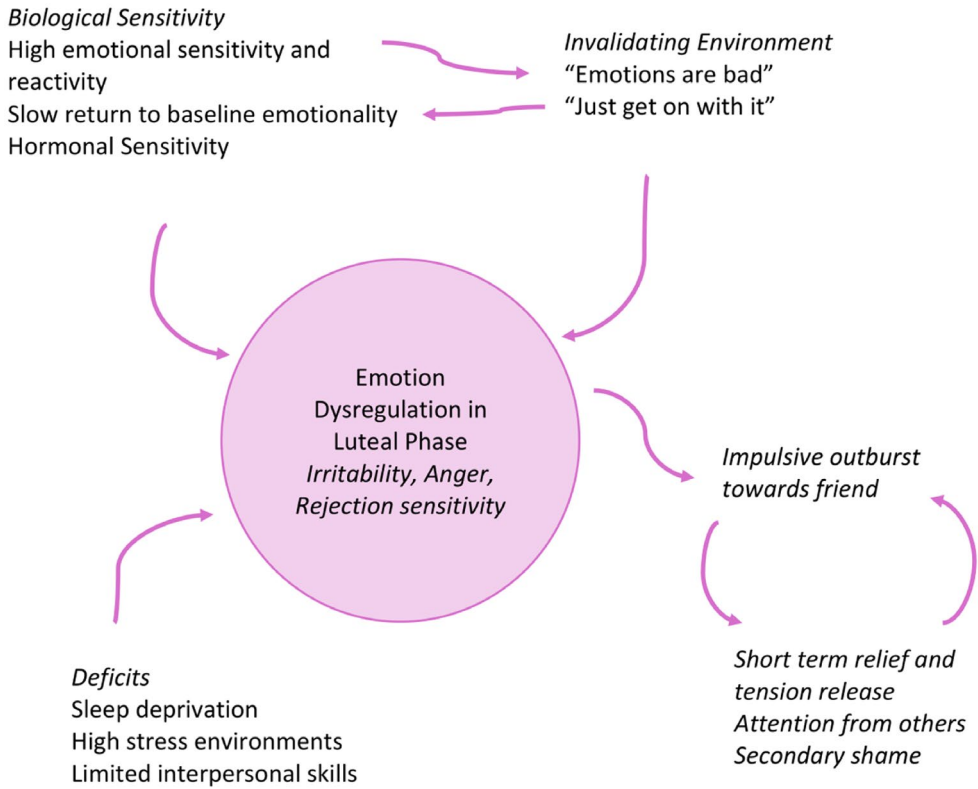


FIGURE 5 A focused DBT formulation for an individual with PMDD whose predominant cyclical symptoms are irritability, rejection sensitivity and interpersonal conflict.

TABLE 8 Examples of psychological processes that fluctuate across the menstrual cycle and their theoretical influence on menstrual cycle-related exacerbation.

Psychological process	Influence on menstrual cycle-related exacerbation
Sleep Difficulties (Shechter et al., 2010)	Transdiagnostic
Stress Sensitivity (Ossewaarde et al., 2010)	Transdiagnostic
Emotional Regulation (Wu et al., 2014)	Transdiagnostic
Fatigue and Pain (Li, Lloyd, & Graham, 2020)	Transdiagnostic
Shame and Embarrassment surrounding Menstruation (Ryan et al., 2020)	Transdiagnostic
Repetitive Negative Thinking (Li, Denson, & Graham, 2020)	Transdiagnostic; relevant to Obsessive Compulsive Disorder and Mood Disorders
Rejection Sensitivity (Lobmaier et al., 2019)	Transdiagnostic; relevant to Borderline Personality Disorder, Social Anxiety Disorder
Impulsivity (Zhuang et al., 2020)	Transdiagnostic; relevant to Substance Use Disorder, Borderline Personality Disorder
Reward Sensitivity (Diekhof & Ratnayake, 2016)	Transdiagnostic; relevant to Depression, Bipolar Disorder, Addiction
Interoceptive Sensitivity and Processing e.g., accuracy of internal bodily states (Nillni et al., 2011; Suzuki & Ohira, 2025)	Transdiagnostic; relevant to Panic disorder, Body Dysmorphic Disorder
Disgust (Zelaźniewicz et al., 2016) and Disgust Sensitivity (Milkowska et al., 2021)	Particularly relevant to contamination focused Obsessive Compulsive Disorder
Appetite and Energy Intake (Tucker et al., 2025)	Relevant to eating disorders

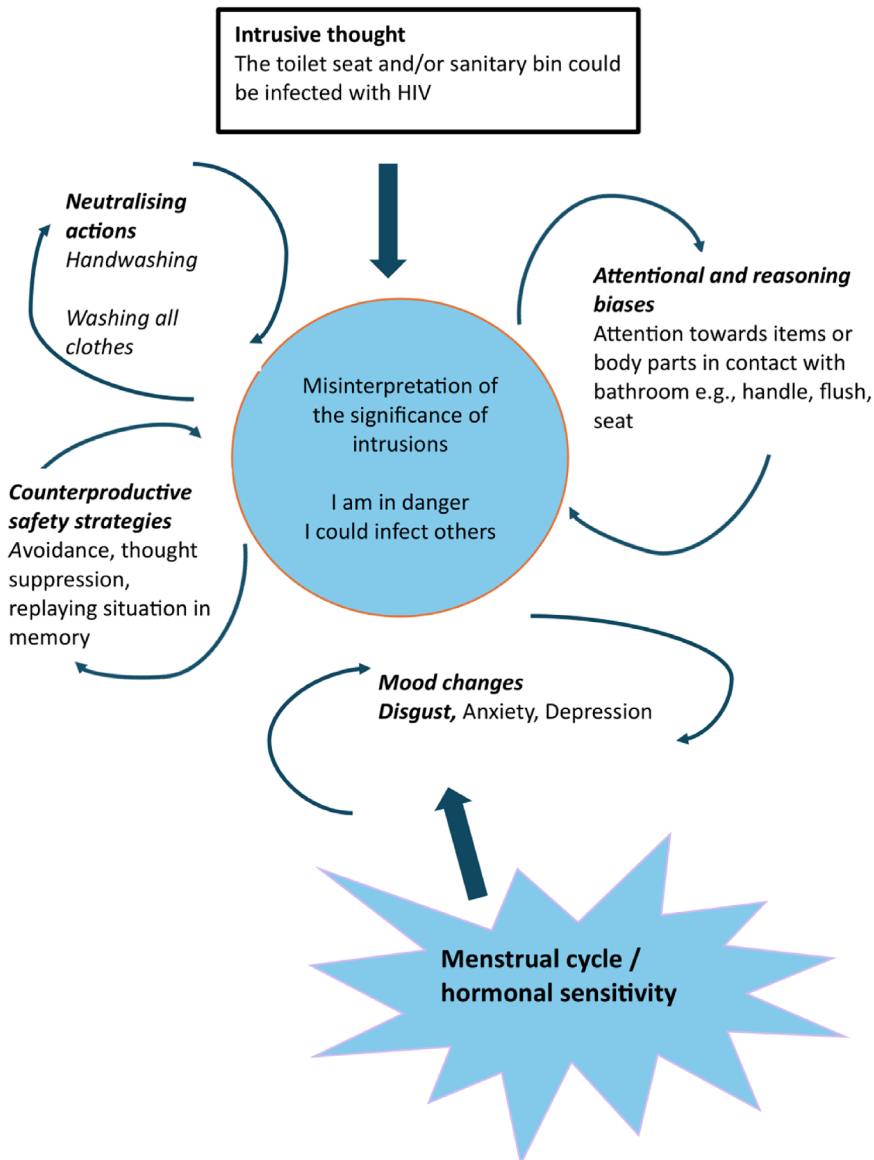


FIGURE 6 A focused CBT formulation for an individual with PME of OCD relevant processes (disgust sensitivity). A proportion of women experience an increase in disgust and disgust sensitivity in the mid-luteal and/or premenstrual phase of the menstrual cycle (Milkowska et al., 2021; Zelaźniewicz et al., 2016). For those with OCD, particularly contamination concerns, this may lead to increased responsibility and threat appraisals in response to contamination-related stimuli and feed into the vicious ‘flower’ outlined in the (Salkovskis, 1985) OCD model. The above formulation is an example of how just one of many potentially relevant psychological processes might contribute to the PME of OCD. Several studies have highlighted the potential for cognitive changes across the menstrual cycle in clinical and non-clinical samples (see Henderson et al., 2025; Le et al., 2020; Schmalenberger et al., 2017, 2024; Sundström Poromaa & Gingnell, 2014). Therefore, in the above example, it's possible that cognitive changes, for example, in information processing may also be relevant to the premenstrual worsening of OCD. As yet, research directly examining cognitive and psychological mechanisms underlying PME of OCD remains limited.

data and psychological formulations that inform diagnosis and treatment planning. They may also coordinate gynaecological evaluation and, where indicated, hormonal testing to exclude relevant medical conditions (e.g., endocrine disorders or hormone-secreting tumours) or to guide potential hormonal

TABLE 9 Key clinical recommendations for menstrual-cycle informed suicide risk and safety plans.

1. Integrating menstrual cycle phase into routine suicide risk assessments (e.g. asking '*Where are you in your cycle today? Have you noticed changes in your thoughts or mood?*')
2. Developing personalized safety plans that anticipate symptomatic phases, including tailored coping strategies for perimenstrual days
3. Considering means restriction and enhanced social or clinical support during high-risk windows
4. Encouraging daily or symptom-based tracking to improve awareness and predictability of risk
5. Addressing chronic themes such as hopelessness, shame and guilt, especially following relational conflict or self-harm during the PMDD window
6. Supporting clients to 'pick up the pieces' post-crisis through conflict resolution, repair work and compassion-focused techniques (e.g., CFT strategies to reduce self-criticism and increase self-soothing)

treatment options. Psychologists may further support psychiatric medication management, particularly when symptoms suggest PME of an underlying disorder (e.g., OCD, bipolar disorder) or when psychotropic medications may have fluctuating effects across the cycle. Collaborative care enables joint decision-making that considers the biological, psychological and social contributors to distress. Given the complex symptom presentations, clear communication between professionals is essential to ensure safe, holistic and effective care.

CONCLUSION

For a substantial minority of naturally cycling individuals, normative hormonal fluctuations can trigger or exacerbate clinically significant psychological distress. Conditions such as PMDD and PME illustrate how hormone sensitivity can meaningfully shape mental health outcomes; however, emerging evidence suggests that symptom onset or worsening is not confined to the premenstrual or perimenstrual phase. For some individuals, distress may peak during other cycle phases, including around ovulation, underscoring the need to move beyond narrow timing assumptions and to identify each client's individual pattern of vulnerability. When cyclical symptom patterns go unrecognized diagnosis may be delayed, formulation weakened and treatment less effective.

This review has outlined gold-standard evidence and best-practice guidance for integrating menstrual cycle considerations into psychological care. Cycle-informed assessment, prospective symptom tracking and phase-sensitive formulation can enhance diagnostic clarity and support more personalized, responsive intervention. Crucially, these strategies build on existing psychological frameworks and skills, rather than requiring new therapeutic models.

Taken together, the menstrual cycle remains under-assessed in routine mental health practice despite its clear clinical relevance. Incorporating a hormone-sensitive lens into everyday clinical work represents a pragmatic and evidence-based step towards more accurate formulations, improved therapeutic outcomes and safer, more validating care for those affected by menstrual cycle-related distress.

AUTHOR CONTRIBUTIONS

Ellen R. Lambert: Conceptualization; investigation; funding acquisition; writing – original draft; methodology; validation; visualization; writing – review and editing; software; formal analysis; project administration; data curation; resources. **Louise N. Nolan:** Conceptualization; investigation; funding acquisition; writing – original draft; methodology; validation; visualization; writing – review and editing; software; formal analysis; project administration; data curation; resources. **Katja M. Schmalenberger:** Investigation; funding acquisition; writing – original draft; methodology; validation; visualization; writing – review and editing; software; formal analysis; project administration; data curation; supervision; resources.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing does not apply to this review article as no datasets were generated or analysed.

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