Supplemental Figure 1: Experimental and analytic workflow

**Recruitment and screening**

1. Asymptomatic Controls (n=9)
2. PMDD (n=10)

**Patient-derived lymphoblastoid cell lines (LCLs)**

- Untreated (n=9) → Untreated (n=10)
- E2-treated (n=5) → E2-treated (n=8)
- P4-treated (n=7) → P4-treated (n=7)

**Cell culture & hormone treatments**

- RNAseq samples (n = 46)

**RNA sequencing**

- Module-level analysis
  - WGCNA
    - Differentially Regulated Modules
    - Enriched gene sets (LEA subset)
      - LEA
      - Enrichr

- Gene-level analysis
  - EdgeR
    - Differentially Regulated Genes (E2-DRGs, P4-DRGs)
      - Validated DRGs
        - Gene interaction network
      - Literature Review

**Transcriptomic Analysis**

- Physiologic pathway of interest