Estrogen Fluctuations Predict Depressive Symptomatology in Adolescent Females at Elevated Risk for Suicide
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Background

• Adolescent mood disorders and suicide risk are at alarmingly high rates in the U.S., especially among females.1
• Adult females vulnerable to reproductive mood disorders exhibit hormone sensitivity (i.e., affective symptoms linked to estrogen fluctuations), especially within the context of stressful life events.2,4
• Whether hormone sensitivity is evident in vulnerable adolescent females is unknown.3

Objective: To examine estrogen fluctuations and affective symptoms in females at high versus low risk for suicidal thoughts and behaviors (STBs).

Methods

Screening
• Ages 12-17
• ≥ 1 post-menarche
• No hormonal contraceptives

Enrollment
• Semi-structured interviews assessing depressive symptomatology & STBs
• Self-report of mood & suicidal ideation

Estrogen Collection & Daily Survey (70 Days)
• Daily dried urinary collection (Estrone; E1G)
• Daily ratings for mood via the Daily Record of Severity of Problems (DRSP), STBs and interpersonal stress using Ecological Momentary Assessment (EMA) methodology

Results

Greater E1G variability predicted greater mood swings (Fig 1.), anxiety (Fig 2.), anhedonia (Fig 3.) and rejection sensitivity in high risk, but not in low risk females (Fs(1,33) > 4.1, Ps <.05).

There was no significant relationship between E1G variability and the 7 other measures from the DRSP such as anger and interpersonal conflict for either group.

High risk females reported more interpersonal stress over the 70 days (F(22,13) = 3.56, p<.05).

Greater interpersonal stress predicted more negative mood symptoms in the high risk sample only (ts = 3.04 – 3.92, Ps < .01).

Conclusions

• Hormone sensitivity may increase vulnerability to mood impairment in adolescent females with elevated baseline depressive symptomatology or a history of STBs.
• Future research examining interpersonal stressors as moderators in the relationship between hormone sensitivity and affective symptoms is warranted.

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References: