Adverse Childhood Experiences (ACEs) and Low Resilience are Associated with New Onset Depression and Anxiety in Pregnancy

Carey R. Watson, MD, Abigail Eaton, PhD, MPH, Cynthia I. Campbell, PhD, MPH, Lyndsay A. Avalos, PhD, MPH, Kathryn K. Ridout, MD, PhD, Kelly C. Young-Wolff, PhD, MPH

|  |  |
| --- | --- |
| Challenge | Adverse Childhood Experiences (ACEs) are known to significantly impact a wide variety of health outcomes, but data regarding the impact on peripartum health outcomes are limited. Further, Resilience is increasingly considered as a potential modifiable risk factor, but there is little evidence on its association to important outcomes. Understanding the association between high ACE scores, resilience, and peripartum mood disorders could allow women at higher risk to be targeted for interventions aimed at preventing or mitigating these adverse outcomes. |
| Existing Evidence | Our previous small pilot studies in pregnancy demonstrated that ACEs are associated with behavioral health outcomes during pregnancy, such as intimate partner violence, depression, and prenatal substance use. However, we also found that resilience appears to mitigate the negative impact of ACEs. While these studies were innovative, the sample sizes were small and not adequately powered to evaluate the impact of ACEs and resilience on new onset depression and in pregnancy.  |
| Target Population | All KPNC pregnant individuals aged 18+ with KPNC membership during the year prior to pregnancy screened for ACEs and resilience as part of standard prenatal care at ~16 weeks gestation (from 10/18/2021-3/29/2023). |
| Intervention or Exposure | ACEs and low resilience based on self-report during pregnancy. |
| **Outcomes/Key Findings** | **ACEs and low Resilience are associated with new onset depression and anxiety in pregnancy.**  Patients with low versus high resilience (aOR=2.13, 95%CI=1.91-2.37), and those with 1 (aOR=1.31, 95%CI:1.13-1.52), 2-3 (aOR=1.98, 95%CI:1.71-2.30), and 4+ ACEs (aOR=3.21, 95%CI:2.74-3.76) versus 0 ACEs, had greater odds of new-onset depression. Similarly, those with low versus high resilience (aOR=3.19, 95%CI=2.77-3.67) and those with 2-3 (aOR=1.85, 95%CI:1.52-2.26), and 4+ ACEs (aOR=3.06, 95%CI:2.51-3.72) versus 0 ACEs had greater odds of self-reported depression. Finally, those with low versus high resilience (aOR=2.02, 95%CI:1.77-2.30) and those with 1 ACE (aOR=1.22, 95%CI=1.02-1.47), 2-3 ACEs (aOR=1.66, 95%CI:1.38-1.99) and 4+ ACEs (aOR=2.54, 95%CI:2.10-3.06) (versus 0 ACEs) had greater odds of new-onset anxiety. There were no statistically significant interactions between ACEs and resilience for any outcomes. See table below. |
| **Resulting Action/Change** | Based on these findings, we recommend continuing routine screening for ACEs and resilience in prenatal care. Interventions shown to improve well-being for people with ACEs may help mitigate peripartum mood disorders for pregnant patients with ACEs. We recommend utilizing these supports and referrals for patients with ACEs and / or low resilience.  |

|  |  |
| --- | --- |
| Additional Recommendations | Research is needed to identify whether pregnancy may trigger depression and anxiety for those with ACEs and low resilience. Research is also needed to evaluate which interventions best mitigate peripartum mood disorders for pregnant patients with ACEs.  |
| Implementation Tools  | Routine screening for peripartum mood disorders, ACEs, and resilience. Interventions that can support well-being in pregnancy, such as referral to embedded behavioral health or a health psychologist may help mitigate peripartum mood and anxiety disorders. |
| Implementation Measurement | Continued monitoring of screening rates, particularly for Resilience screening which is more recent. |
| Reference | A graph with numbers and lines  Description automatically generated |