

Preterm birth, birthweight, and subsequent risk for depression

Affiliations

- 1 Department of Biostatistics and Epidemiology, University of Massachusetts Amherst, Amherst, MA, USA.
 - 2 College of Nursing, University of Rhode Island, Providence, RI, USA.
 - 3 Department of Clinical Sciences, College of Medicine, Sulaiman Al Rajhi University, Al Bukairiyah, Saudi Arabia.
 - 4 Sidney Kimmel Medical College at Thomas Jefferson University, West Reading, PA, USA.
 - 5 Department of Epidemiology, University of Iowa, Iowa City, IA, USA.
- # Contributed equally.

Abstract

An individual's birthweight, a marker of *in utero* exposures, was recently associated with certain psychiatric conditions. However, studies investigating the relationship between an individual's preterm birth status and/or birthweight and risk for depression during adulthood are sparse; we used data from the Women's Health Initiative (WHI) to investigate these potential associations. At study entry, 86,925 postmenopausal women reported their birthweight by category (<6 lbs., 6-7 lbs. 15 oz., 8-9 lbs. 15 oz., or ≥10 lbs.) and their preterm birth status (full-term or ≥4 weeks premature). Women also completed the Burnham screen for depression and were asked to self-report if: (a) they had ever been diagnosed with depression, or (b) if they were taking antidepressant medications. Linear and logistic regression models were used to estimate unadjusted and adjusted effect estimates. Compared to those born weighing between 6 and 7 lbs. 15 oz., individuals born weighing <6 lbs. ($\beta_{adj} = 0.007$, $P < 0.0001$) and ≥10 lbs. ($\beta_{adj} = 0.006$, $P = 0.02$) had significantly higher Burnham scores. Individuals born weighing <6 lbs. were also more likely to have depression (adjOR 1.21, 95% CI 1.11-1.31). Individuals born preterm were also more likely to have depression (adjOR 1.18, 95% CI 1.02-1.35); while attenuated, this association remained in analyses limited to only those reportedly born weighing <6 lbs. Our research supports the role of early life exposures on health risks across the life course. Individuals born at low or high birthweights and those born preterm may benefit from early evaluation and long-term follow-up for the prevention and treatment of mental health outcomes.