Maternal interpersonal trauma and cord blood IgE levels in an inner-city cohort: A life-course perspective

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B : P

O : (IPT) I, E (= 478).

M : M IPT (17), (18), R C T S 28.4 ± 7.9 . C I, E IPT I, E (, 1.08 IU/ L)

Abbreviations used

HPA: Hypothalamic-pituitary-adrenal
IPT: Interpersonal trauma
NLE: Negative life event
OR: Odds ratio
R-CTS: Revised Conflict Tactics Scale
SES: Socioeconomic status
WIC: Women, Infants, and Children

perspective posits that some stressors might influence health through 2 mechanisms, early programming and cumulative pathways, in addition to more immediate effects.[12] Early programming can occur if exposures during sensitive developmental periods have lasting psychobiologic sequelae. Both early childhood and adolescence have been identified as sensitive periods susceptible to the effects of stress.[3,13] Exposure to IPT in earlier

Wellbeing Study (n = 2117) demonstrated an association between maternal report of chronic domestic violence and an increased risk of physician-diagnosed asthma in children by age 3 years, with effects attenuated when mothers maintained positive caregiving in the context of violence.[44]

These data suggest a nonlinear or threshold effect in that among women who had experienced IPT, the prevalence of more extreme increased levels of IgE in their infants at birth increased. Also, sensitivity analysis demonstrated that results were strongest when considering more extreme cutoff values for increased cord blood IgE ($\geq$1.08 and $\geq$1.40 IU/mL). The more extreme levels might be most relevant as a preclinical marker of atopic disorders that develop in later childhood. Although there is no agreement on the threshold level that is associated with increased risk of clinical atopic disorders, several studies have found that cord blood IgE levels between 0.9 and 1.3 IU/mL are associated with significantly increased risk, particularly in relation to early sensitization in later childhood.[38,45] Indeed, cord blood IgE levels in general are a weaker predictor of later atopic risk unless the more extreme levels are considered. Use of lower cutoff values in prior research[46] results in significant changes in the sensitivity, specificity, and positive predictive value. Moreover, although population studies suggest that most children with atopic disease do not have increased IgE levels as newborns, those with especially increased IgE responsiveness are particularly predisposed to allergic disorders.

The strengths of the current study include the assessment of trauma in different life periods using identical items, adjustment for a range of confounders across the life course and potential mediators, and the focus on a population at high risk for both trauma and atopy. Nevertheless, limitations should be noted.

First, all participants were recruited from specific prenatal clinics or affiliated WIC sites. These mothers might differ systematically from those not receiving prenatal care at these centers or participating in WIC, limiting generalizability.

Second, because measures of IPT are self-reported and retrospective, the potential for recall bias or social desirability response bias remains. However, any reporting bias would likely be in the direction of underreporting, biasing our results toward the null. Furthermore, the R-CTS is generally reliable because it asks about discrete objective events rather than global estimates of family interaction, which are less prone to inaccurate recall.[47,48] Subjects might also inaccurately recall when past events have occurred. Although a blurring together of repeated events over childhood is possible, this is less likely to occur when subjects are asked to report for an age range ($\leq$11 years or 12-17 years of age) rather than a specific age for each event.[47]

Third, although our sensitivity analyses suggest a threshold relationship between maternal lifetime IPT and cord blood IgE levels, we acknowledge that a dose-response relationship could be more rigorously explored by using a continuous measure of IPT. Although the R-CTS ascertains information on discrete types of violence, it does not capture other salient contextual features indicating violence severity (family/relationship context [ie, relationship of the perpetrator to the victim], injury severity, and abuse frequency). Ttypesi4uo2reporting,cwhich

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