



# **Effects in Adulthood of Exposure to Prenatal Stress**

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# **PSYCHOSOCIAL STRESS DURING PREGNANCY**

# Psychosocial Stress During Pregnancy

- Longitudinal study at a university obstetrics clinic
- Payer mix- 46.5% private insurance and 51.6% Medicaid
- Psychosocial screening program part of routine clinical care: Questionnaires measuring stress and mood
- Teenagers <15 years were excluded
- Once during second and third trimester each
- Prenatal Psychosocial Profile Stress scale was used
- n=1522

# Prenatal Psychosocial Profile: Stress Scale

## Prenatal Psychosocial Profile: Stress Scale

To what extent are the following currently a stress or hassle for you?

- a. Financial worries like food, shelter, healthcare, transportation
- b. Other money worries like bills
- c. Problems related to family
- d. Having to move, either recently or in the future
- e. Recent loss of a loved one
- f. Current Pregnancy
- g. Current abuse, sexual, emotional, or physical
- h. Problems with alcohol and/or drugs
- i. Work problems such as being laid off
- j. Problems related to friends
- k. Feeling generally "overloaded"

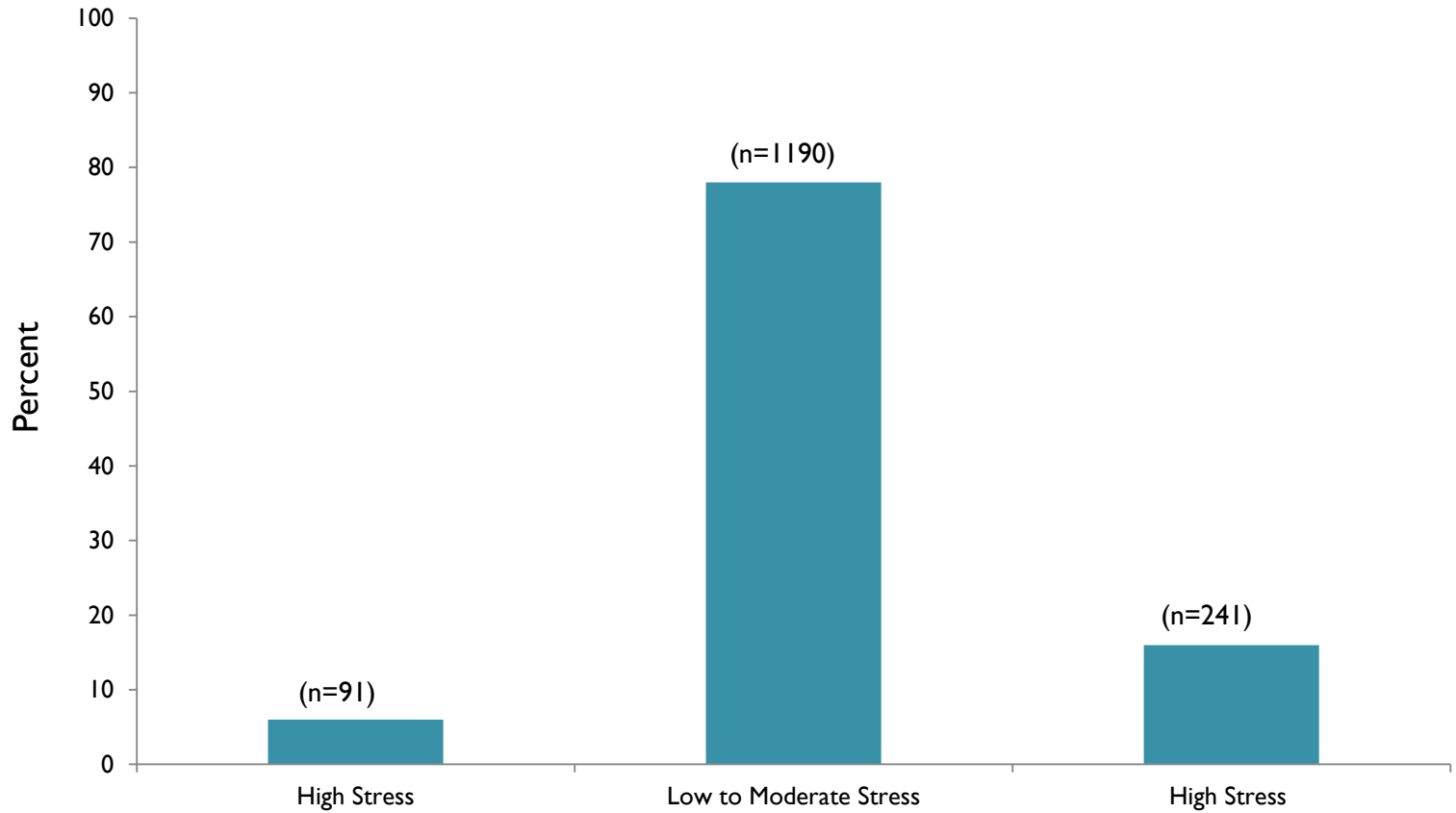
No Stress	Some Stress	Moderate Stress	Severe Stress

Curry, M.A. et al. *The Prenatal Psychosocial Profile: a research and clinical tool*. Res Nurs Health, 1998. **21**(3): p. 211-9.

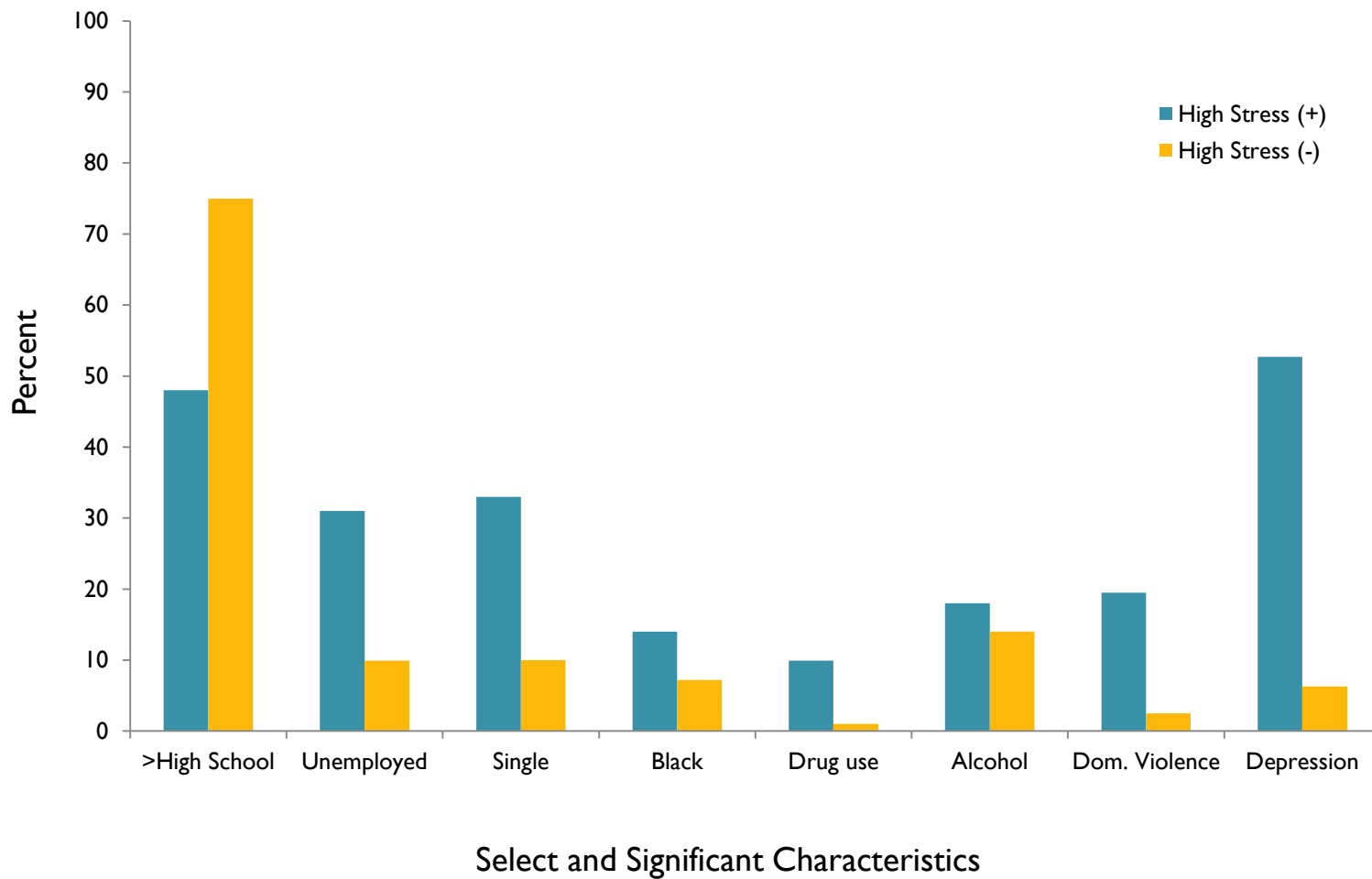
# Psychosocial Stress During Pregnancy- Screening

- Smoke-Free Families Prenatal Screen
- The Alcohol T-ACE
- The Drug CAGE
- Abuse assessment screen

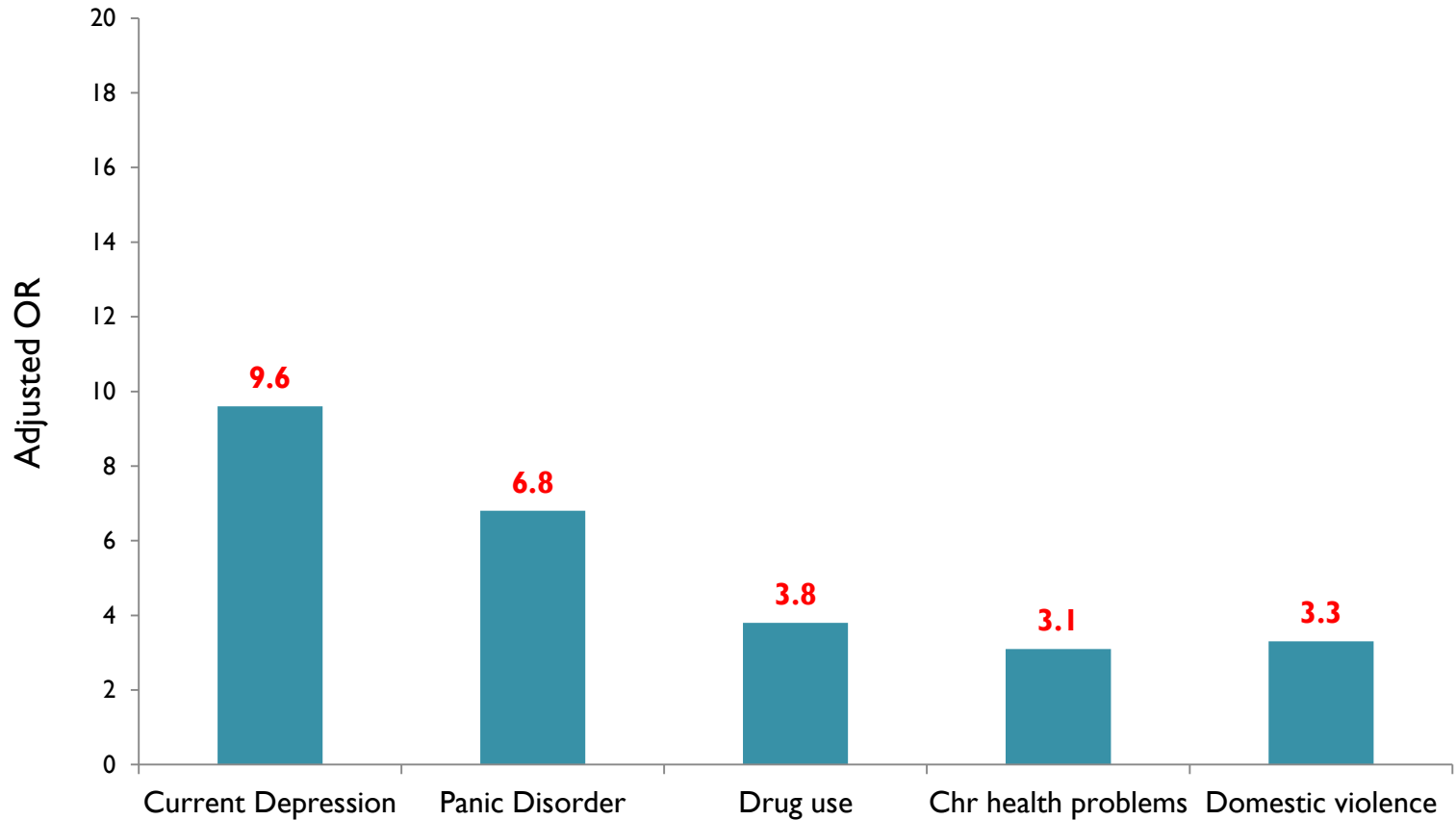
# Stressor Level



## Demographic, Behavioral, and Clinical Characteristics by Psychosocial Stress Category



# Factors Associated with High Psychosocial Stress





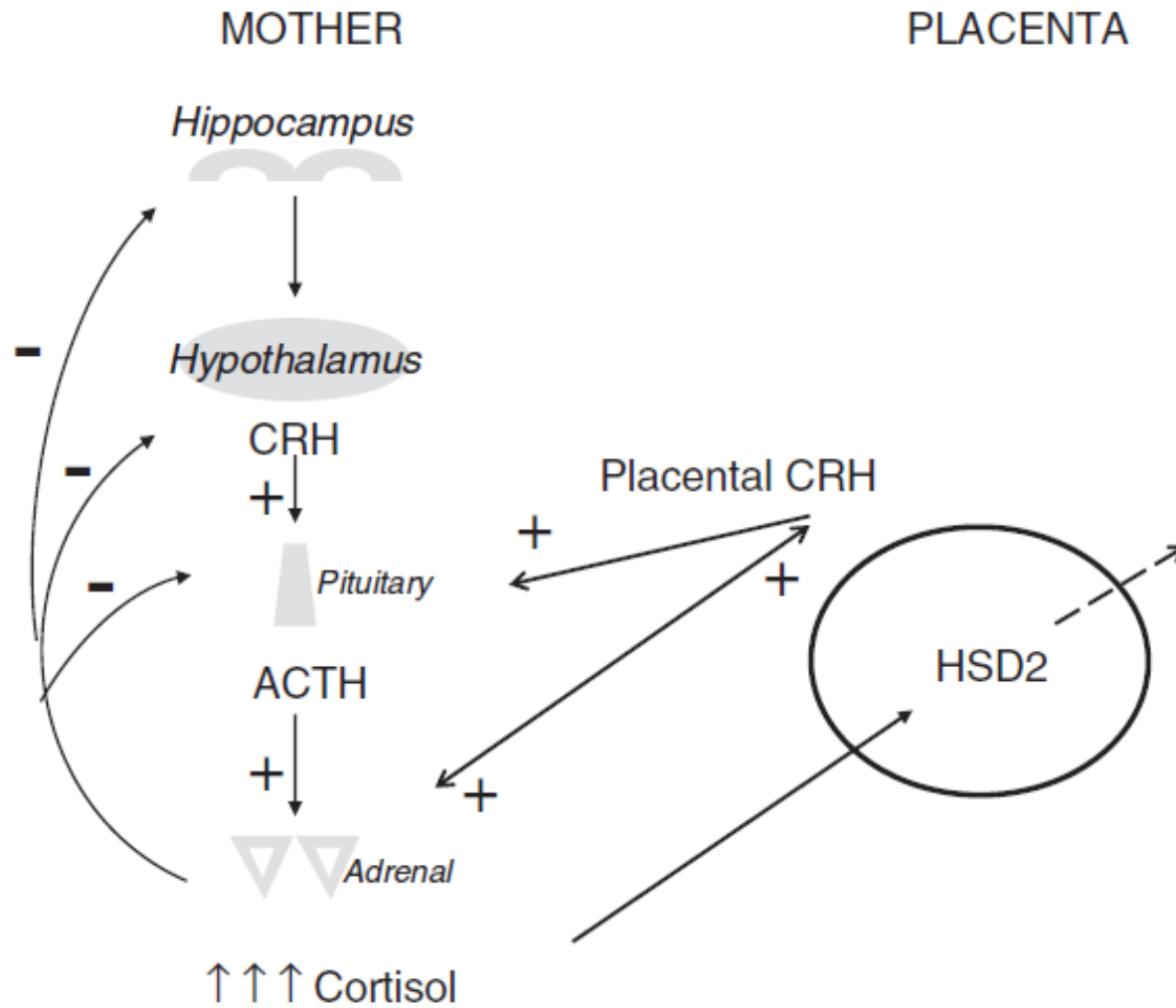
# Prenatal Life Event Stress: Implications

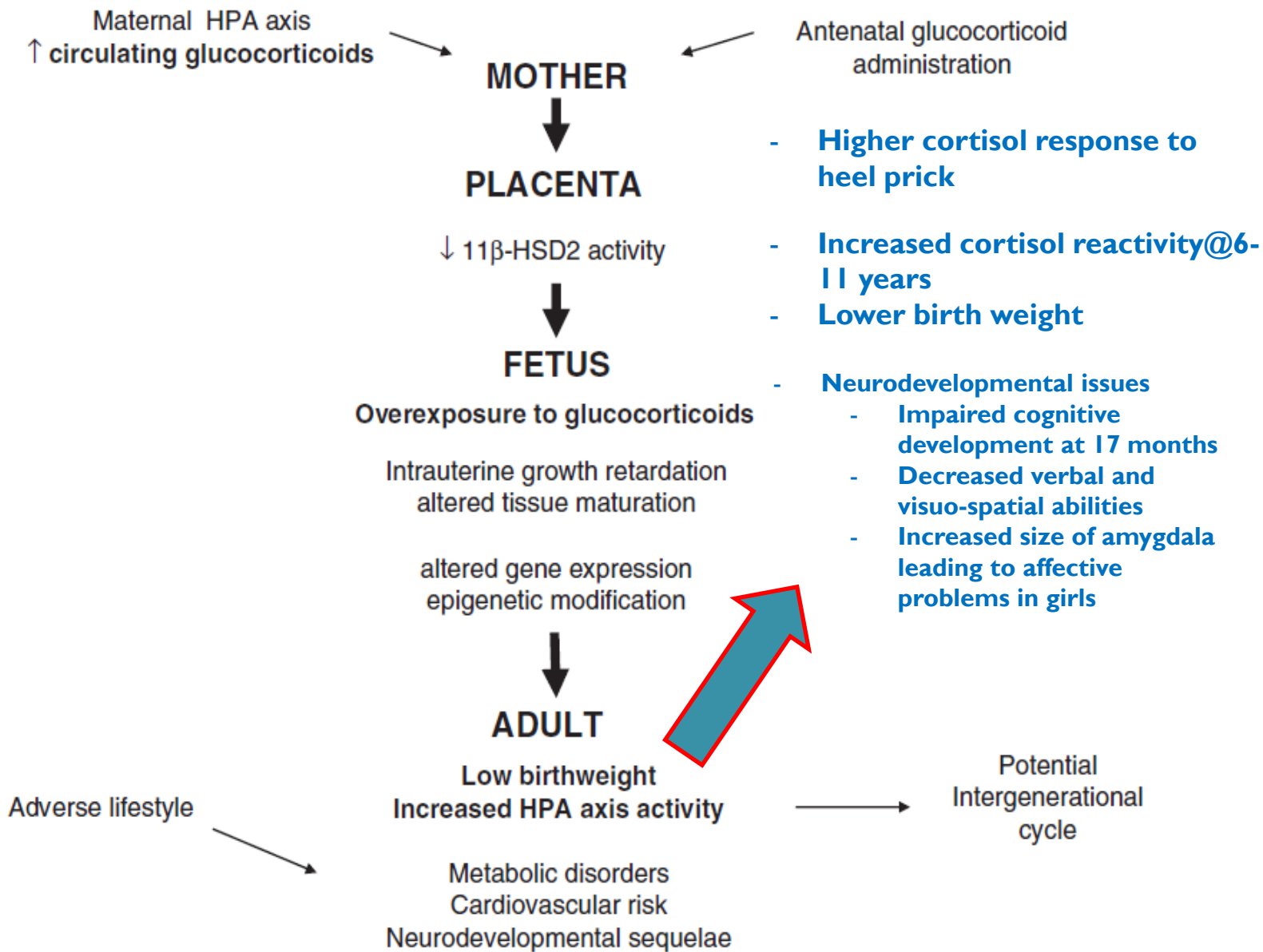
- Women who delivered after 32 weeks gestation were prospectively assessed (n=1800)
- Using Life Events Checklist, Social Support Scale and Coping Style questionnaires
- Women with high NC ( negative coping) scores were more likely to be exposed to severe life events stress during pregnancy
  - Risks of preterm birth during first trimester  
**RR, 2.6 (95% CI. 1.29-5.22)**
  - Risks of preterm birth during second trimester  
**RR, 2.86 (95% CI. 1.32-6.22)**
  - Associated with lower birth weight  
**122g decrease with each unit increase of life events stress**

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**BIOLOGICAL EFFECTS OF  
STRESS IN UTERO**



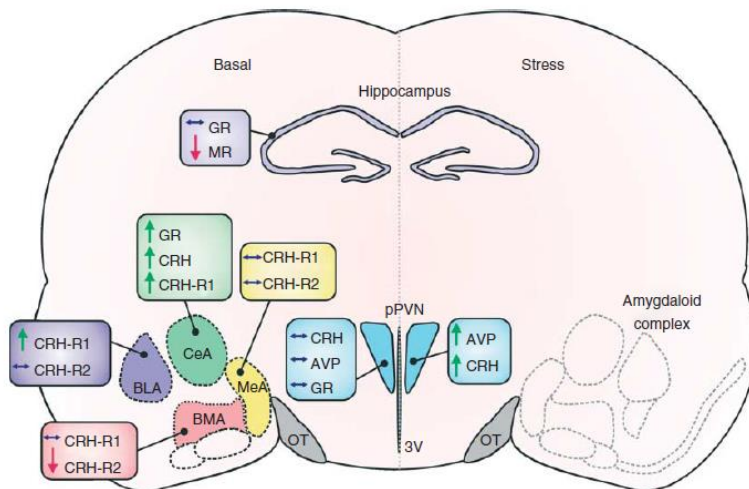
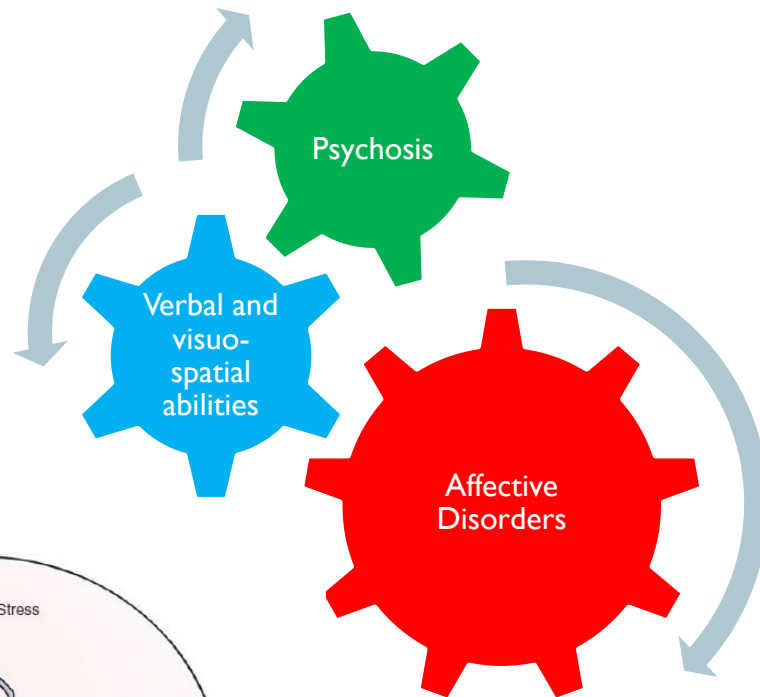


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**PROGRAMMING EFFECTS  
OF GLUCOCORTICOIDS**

# Long term Effects



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# **BENEFICIAL EFFECTS OF RELAXATION**



Contents lists available at SciVerse ScienceDirect

## Behavioural Brain Research

journal homepage: [www.elsevier.com/locate/bbr](http://www.elsevier.com/locate/bbr)



Research report

### Prenatal Enriched Environment improves emotional and attentional reactivity to adulthood stress

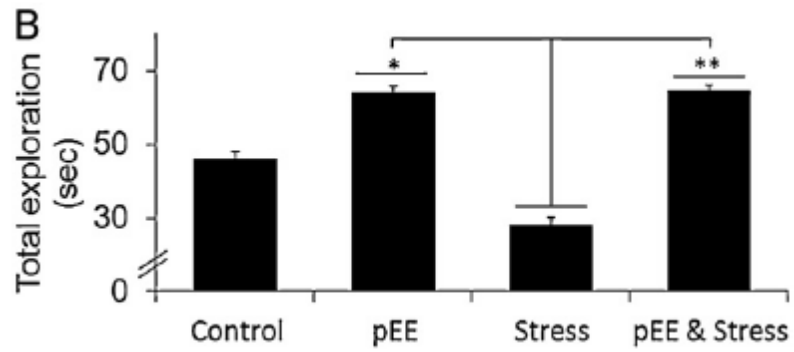
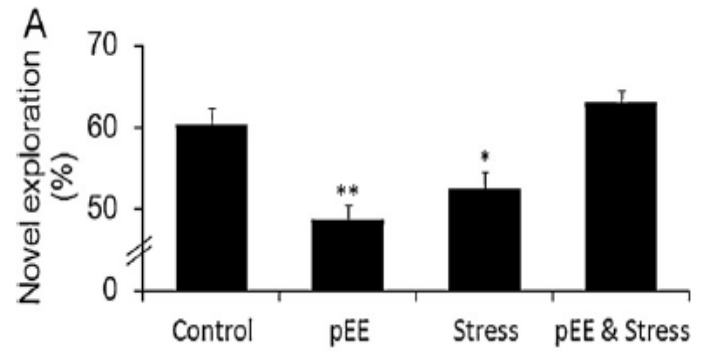
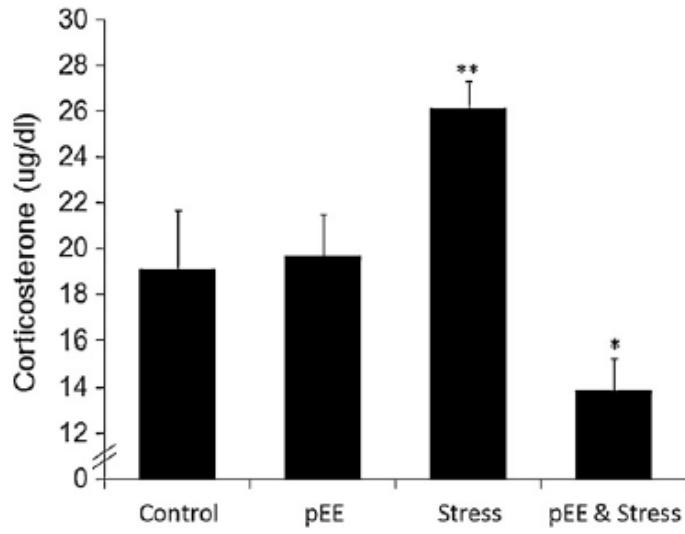
Adi Cymerblit-Sabba<sup>a,c</sup>, Tsurriel Lasri<sup>c</sup>, Michael Gruper<sup>c</sup>, Shlomit Aga-Mizrachi<sup>a,c</sup>, Salman Zubedat<sup>a,c</sup>,  
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# Human Studies

Table 1. **Suggestions for clinical practice**

## Method

Provide relaxation training (eg, with audio CD, individual training or group sessions)

Guided imagery

Mindfulness exercises

Provide accurate information, psychoeducation, and specific self-help literature (eg, stress management during pregnancy)

Support activities that bring joy, relaxation, a balanced day structure, and distraction

Cognitive behavioral therapy (~10-20 sessions)

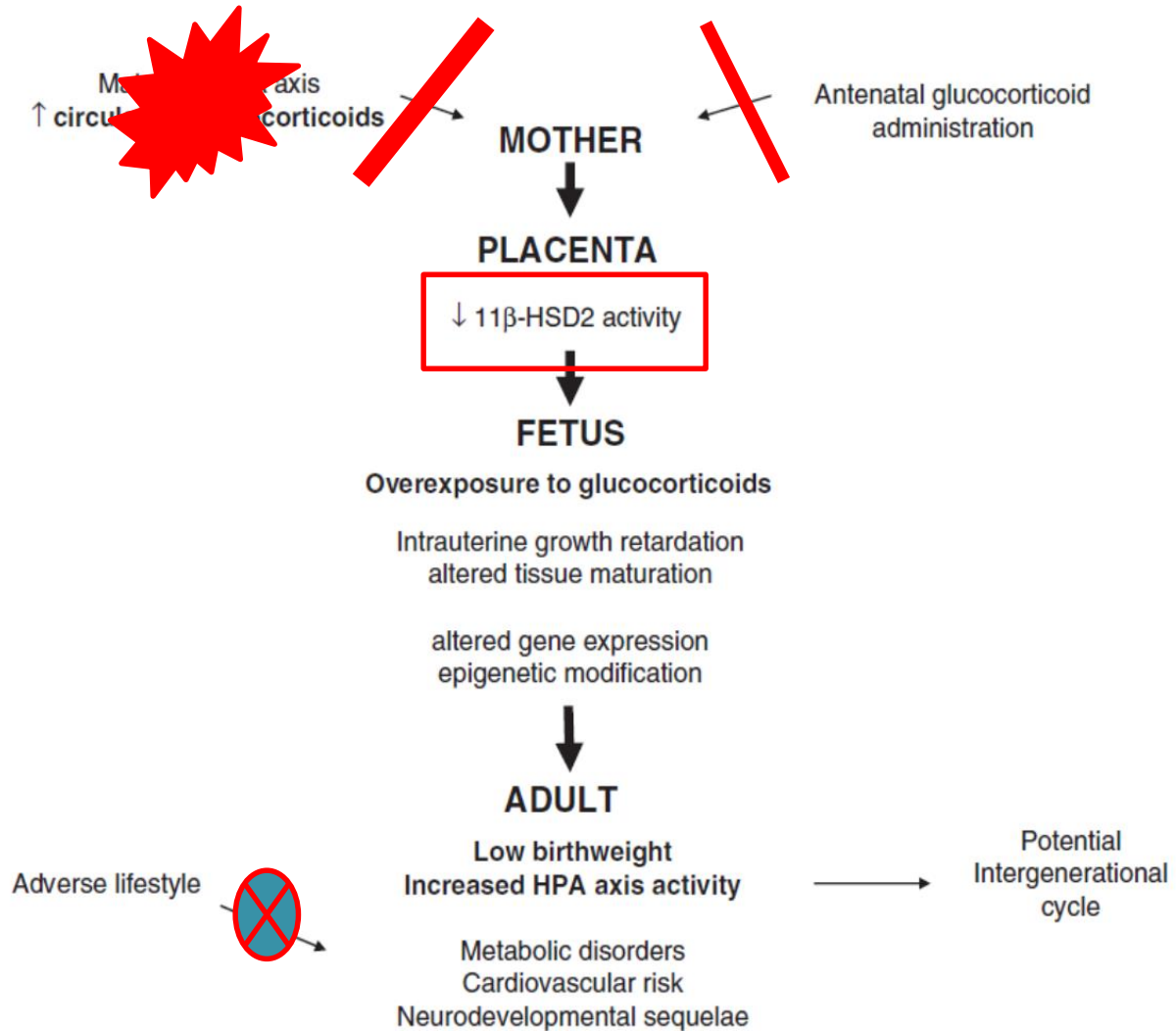
Group sessions to foster maternal-fetal attachment and future bonding (eg, childbirth classes)

Patient support groups for pregnant women experiencing stress/anxiety during pregnancy

Provide professional Web sites for pregnant women

Social support system: Who can support the pregnant woman? Find out in conversation, how the patient is supported and whether additional support is needed. Elaborate with the patient where to find this additional support

# Summary



# Learning Objectives

- Identify factors associated with high antenatal psychosocial stress
- Evaluate prenatal life events stress and its implications
- Understand mechanisms underlying transmission of biological effects of stress in utero
- Explore the programming effects of glucocorticoids
- Review beneficial effects of relaxation during pregnancy