



Intergenerational Factors of Childhood Adversity and Trauma

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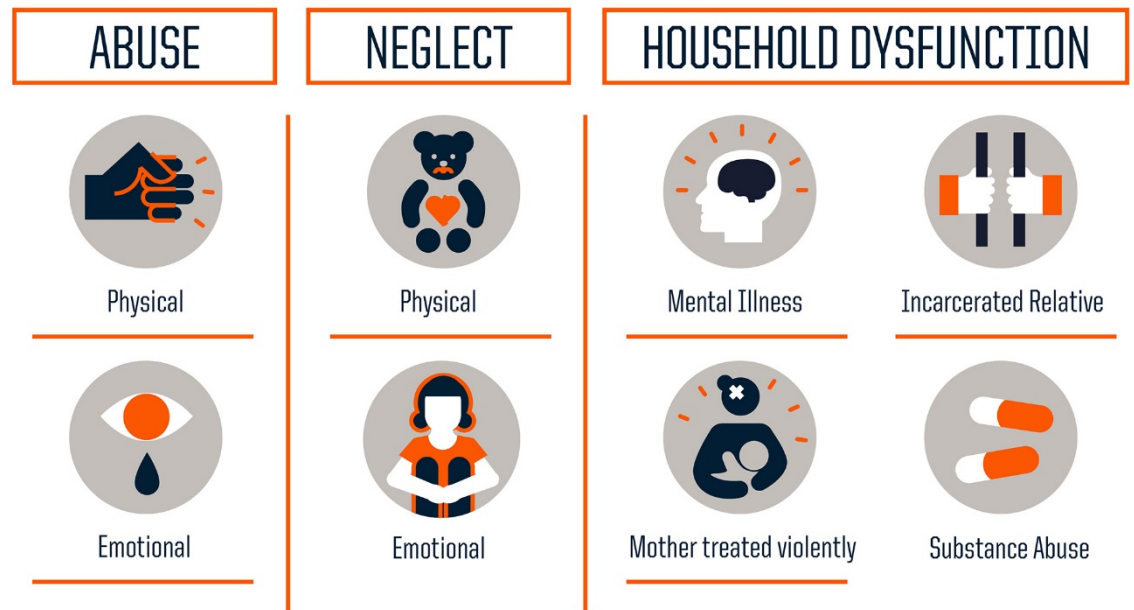
Objectives

- Understand several key factors contributing to intergenerational transmission of adversity and trauma:
 - Maternal Mental Health
 - Attachment
 - Regulatory Capacity
 - Intrauterine Environment
 - Social Determinants of Health
- Discuss ways that this new understanding can enhance our support and treatment of families impacted by ACEs

Studies on Adverse Childhood Experiences

Kaiser Permanente
and CDC 1995-1997:
Effects of early
adverse experiences
within individual's
lifetime

Follow-Up Studies:
ACEs are passed down
to future generations



Intergenerational Transmission of Aces



Poorer overall physical and emotional health at 18 mo

Emotional disturbance

Externalizing and internalizing behavioral challenges

Mother's ACE count had stronger influence on child behavior than father's ACE count

Cooke, et al. (2019)

Schickedanz, et al. (2018)

Scherban, et al. (2018)

Modes of Transmission



Maternal Mental Health

Early Relational Health and Attachment Style

Regulatory Capacity

Intrauterine Environment

Social Determinants of Health

Maternal Mental Health



Childhood maltreatment category most strongly associated with perinatal depression

Depression: Increased negative and withdrawn parenting behaviors

Treatment of depression in mothers: improvements in offspring mental health

Trauma Hx: increased postpartum PTSD

Perinatal depression correlated with insecure attachment/impaired attunement and repair process

Scherban, et al. (2018)

Cooke et al. (2019)

Gold & Tronick, (2020)

Emotional Regulation



Unresolved trauma in mother leads to difficulties with emotional regulation

Infant's emotional regulation capacities are created within the context of regulated, attuned, responsive caregiver

Emotional regulation deficits lead to behavioral difficulties such as internalizing and externalizing difficulties in childhood

Cooke et al. (2019)

Adult Attachment Inventory

Greater numbers of ACEs associated with problematic scores

4 or more ACEs: Loss or trauma spoken of in ways that signify lapse of monitoring of speech or reason: correlated with difficulties in parenting role

Strongest correlation with ACE of witnessing mother being treated violently during childhood

Weakest correlation with ACE of growing up with a parent with mental illness



Murphy et al. (2014)

Fetal Response to Maternal Emotions

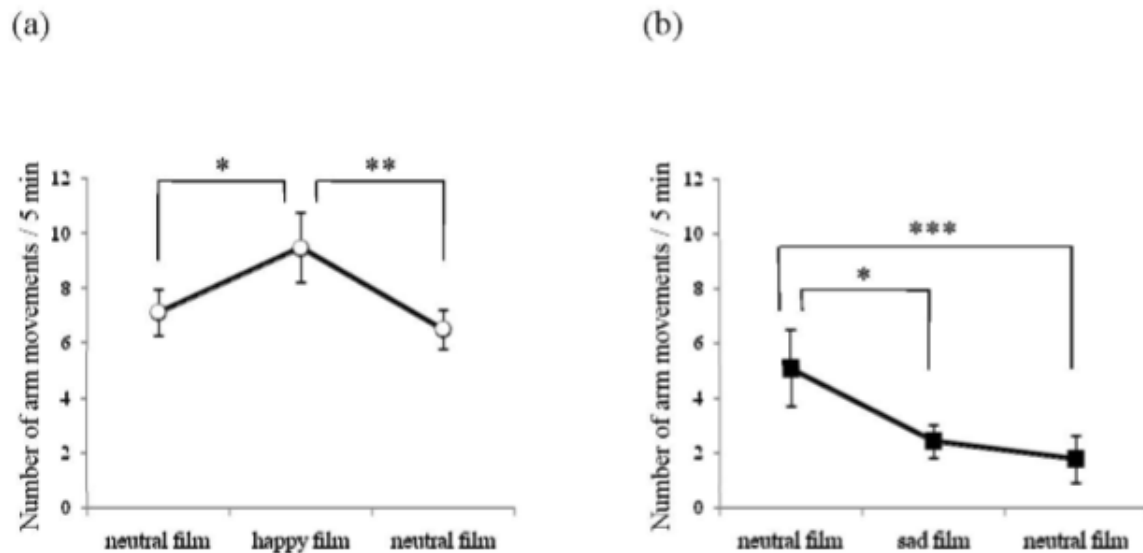
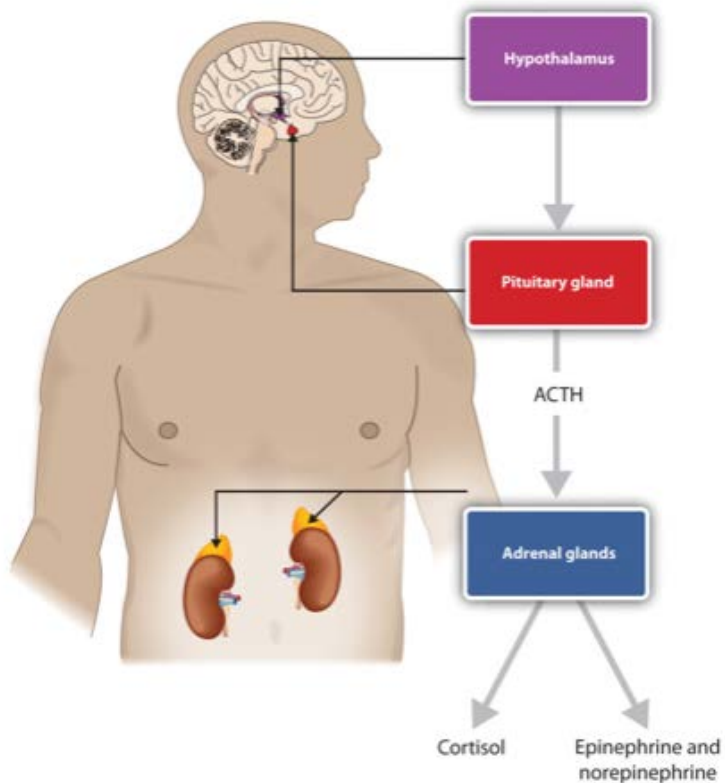


Fig. 1 The number of fetal arm movements for (a) the happiness group (open circles; $n = 8$) and (b) the sadness group (filled squares; $n = 9$). Asterisks indicate a significant difference from baseline (*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.005$).

Gestational Transmission of Aces



ACES cause changes in the HPA Axis

Mechanism for transmission of ACES to the prenat

Thomas, et al. (2018)

The Role of Cortisol

Placenta secretes CRH (corticotropin releasing hormone) stimulates maternal HPA to secrete more cortisol

Direct exposure to cortisol is regulated by placental enzyme 11β -HSD2 which oxidizes cortisol to its inactive form, cortisone

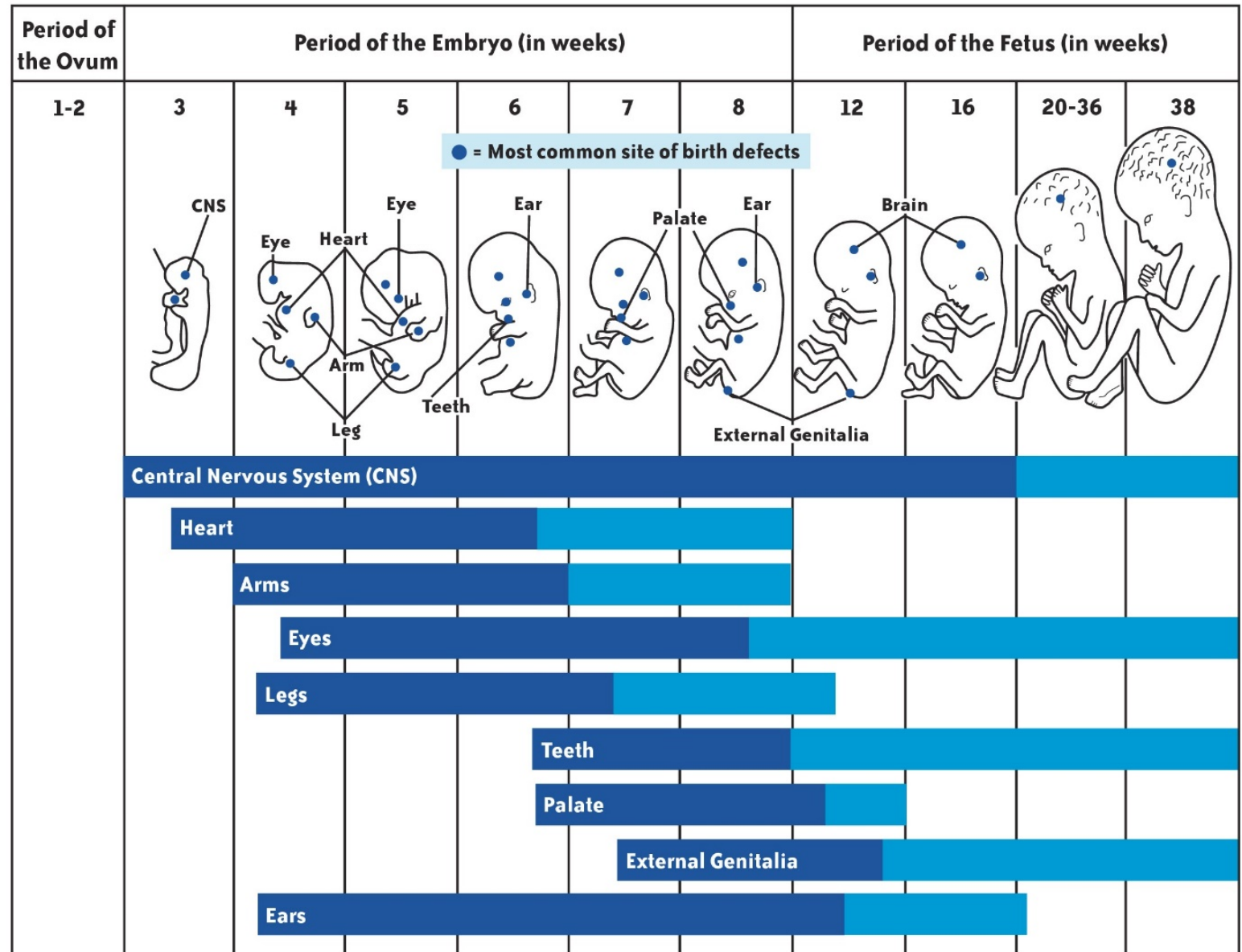
Many adverse intrauterine conditions are associated with downregulation of 11β -HSD2

Abnormal levels may induce neurotoxicity and reduced fetal brain growth

Buss, et al. (2014)
Thomas, et al. (2018)

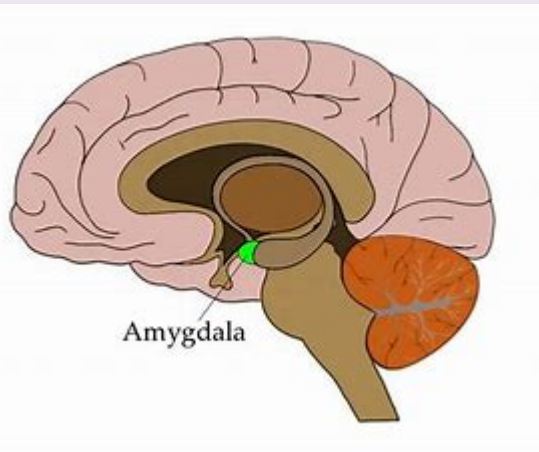


Fetal Programming Theory



Buss, et al., (2014)

Effect of Trauma on Amygdala



Amygdala develops during early embryonic stage-
by 15 weeks gestation

Particularly sensitive to elevated levels of cortisol

1 SD deviation in maternal cortisol in early gestation
linked with 6.4% increase in size of right amygdala
in girls

Right amygdala: processing negative emotions
(fear) processing memory, decision-making,
emotional response

Findings support role of amygdala in affective
disorders

Community Factors and SDH



Ecological-transactional model

Systemic poverty, racism, stigma are both causes of and consequences of the intergenerational transmission of trauma.

Increased exposure to tobacco, other substances

Reduced healthcare use

Vulnerable living conditions

Substance use disorders

Early death of parent due to obesity, cancer, heart disease

Premature birth, low birth weight

Bosk et al., (2019)

Scherban et al., (2018)

Conclusions

2-generation approach to physical, social, and mental health

Particular care for SDH pregnant persons

Shifting birthing practices to become more trauma informed

Training for care providers

Inclusion of doulas in health care team

Importance of dyadic treatment

Regular screening for ACEs in educational, pediatric, obstetrical/midwifery care

Interventions focusing on early relational health/attachment

Interrupting intergenerational cycle of ACEs transmission as public health priority



Resources

- Araki, M., Nishitani, S., Ushimaru, K., Masuzaki, H., Oishi, K., & Shinohara, K. (2010). Fetal response to induced maternal emotions, *Journal of Physiological Sciences*, 60(3), 213-220.
- Bosk, E.A, Paris, R., Hanson, K.E., Ruisard, D, Suchman, N.E. (2019). Innovations in child welfare interventions for caregivers with substance use disorders and their children. *Children and Youth Services Review*, 101, 99-112.
- Buss, C., Davis, E.P., Shahbaba, B., Pruessner, J.C., Head, K., Sandman, C.A., (2012). Maternal cortisol over the course of pregnancy and subsequent child amygdala and hippocampus volumes and affective problems, *Proceedings of the National Academy of Sciences*, 109(20), E1312-E1319.
- Cooke, J.E., Racine, N., Plamondon, A., Touch, S., Madigan, S. (2019). Maternal adverse childhood experiences, attachment style, and mental health: pathways of transmission to child behavior problems. *Child Abuse and Neglect*, (93), 27-37
- Gold, C., Tronick, E., (2020). *The Power of Discord*. New York: Little, Brown

Resources

(Murphy, A., Steele, M., Rishi Dube, S., Bate, J., Bonuck, K., Meissner, P., Goldman, H., Steele, H. (2014). Adverse childhood experiences questionnaire and adult attachment interview: implications for parent child relationships. *Child Abuse and Neglect*, (38), 224-233.

Scherban, F., Wang, X., Boyle-Steed, K.H., Patcher, L.M. (2018). Intergenerational associations of parent adverse childhood experiences and child health outcomes. *Pediatrics*, (141), 1-9.

Schickedanz, A., Halfon, N., Sastry, N., Chung, P. (2018). Parents' adverse childhood experiences and their children's behavioral health problems. *Pediatrics*, (142), 1-9.

Thomas, J., & Magel, C., Tomfohr-Madsen, L., Madigan, S., Letourneau, N., Campbell, T.S., & Giesbrecht, G.F., (2018). Adverse childhood experiences and HPA axis function in pregnant women. *Hormones and Behavior*, 102.



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