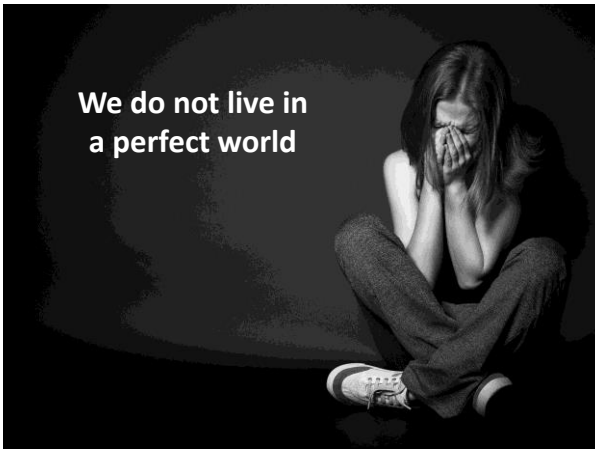
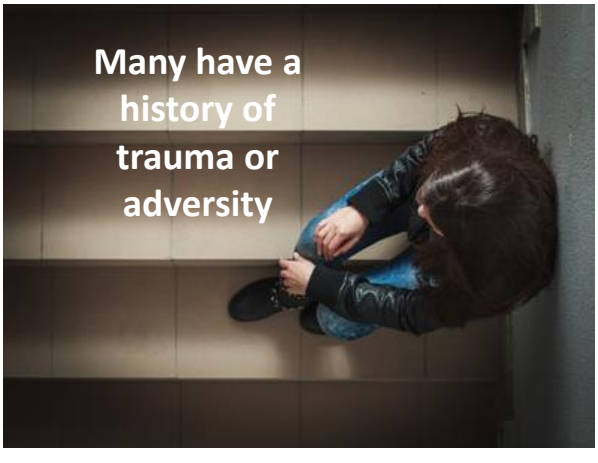
Breastfeeding Makes All the Difference

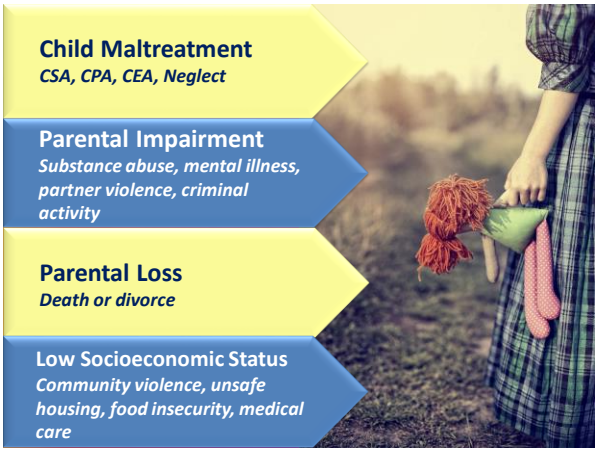
Breastfeeding's Role in Overcoming Adversity

Kathleen Kendall-Tackett, PhD, IBCLC, FAPA

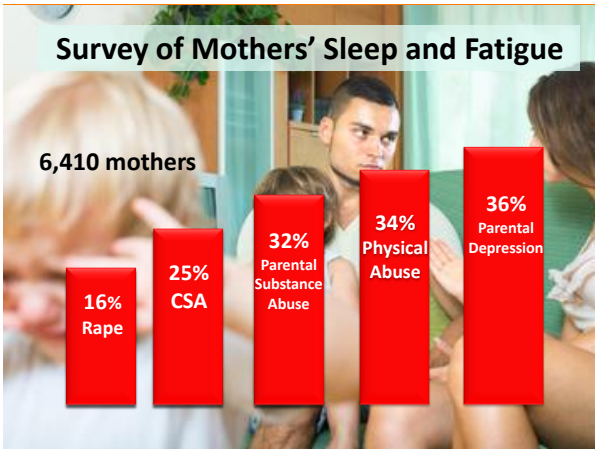




What is childhood adversity?


Child Maltreatment
CSA, CPA, CEA, Neglect
Parental Impairment
Substance abuse, mental illness, partner violence, criminal activity
Parental Loss
Death or divorce
Low Socioeconomic Status
Community violence, unsafe housing, food insecurity, medical care

Suburban
Urban
11
22
46
57
PRENATAL DEPRESSION
LIFETIME ABUSE
Rich-Edwards et al. 2011, Intl J Epidem, 40, 375-384

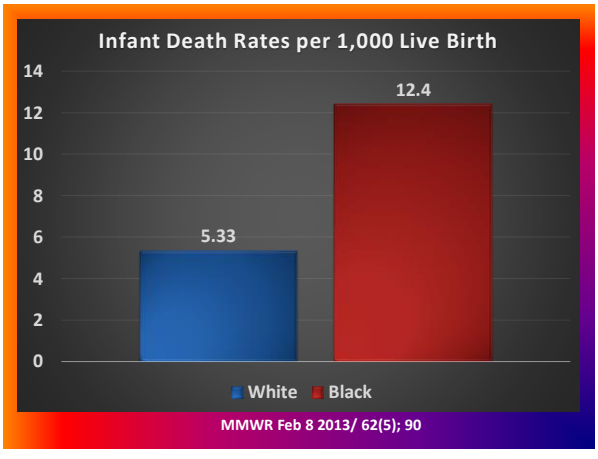

Survey of Mothers' Sleep and Fatigue
6,410 mothers
16% Rape
25% CSA
32% Parental Substance Abuse
34% Physical Abuse
36% Parental Depression

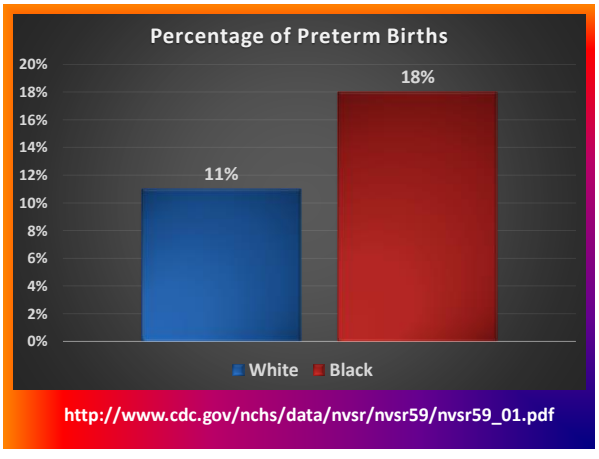
Psychoneuroimmunology

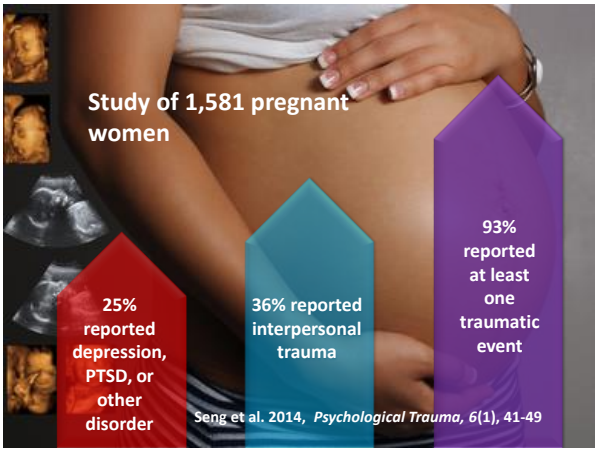
Inflammation
STRESS
Fight-or-flight
Cortisol

Racial/Ethnic Health Disparities

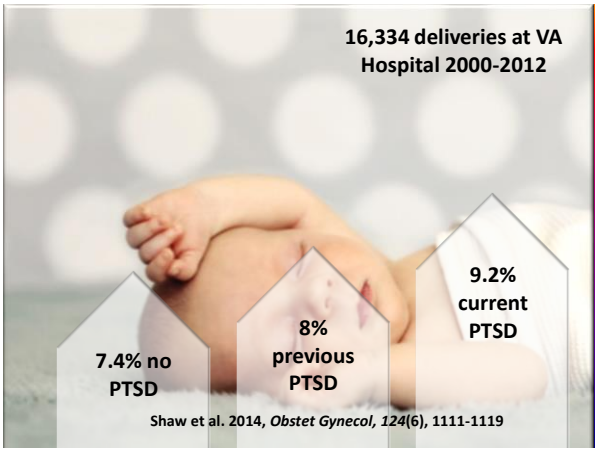
U.S. ranks a 41st in the world in infant mortality


Infant Death Rates per 1,000 Live Birth
14
12
10
8
6
4
2
0
5.33
12.4
White
Black
MMWR Feb 8 2013/ 62(5); 90

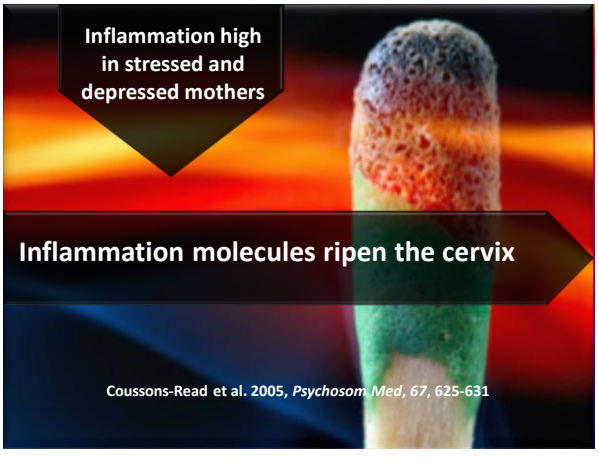

Percentage of Preterm Births
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
11%
18%
White
Black
http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_01.pdf

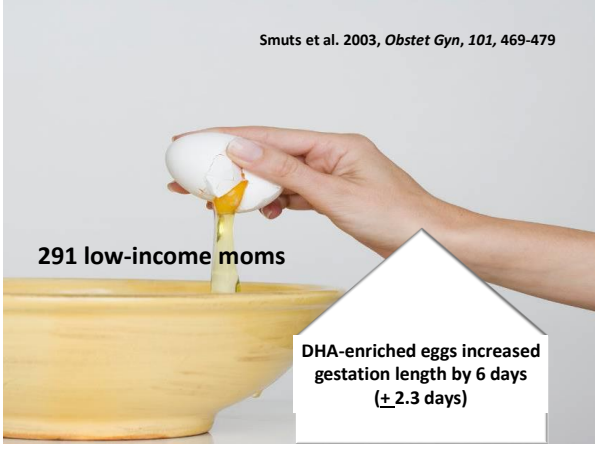

Study of 1,581 pregnant women
25% reported depression, PTSD, or other disorder
36% reported interpersonal trauma
93% reported at least one traumatic event
Seng et al. 2014, Psychological Trauma, 6(1), 41-49

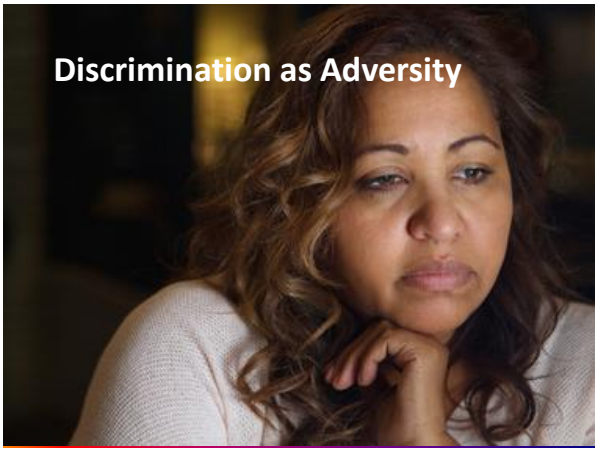
PTSD
PTSD
PTSD
PTSD
PTSD
Seng et al. 2011, Arch Womens Ment Health, 14(4), 295-306

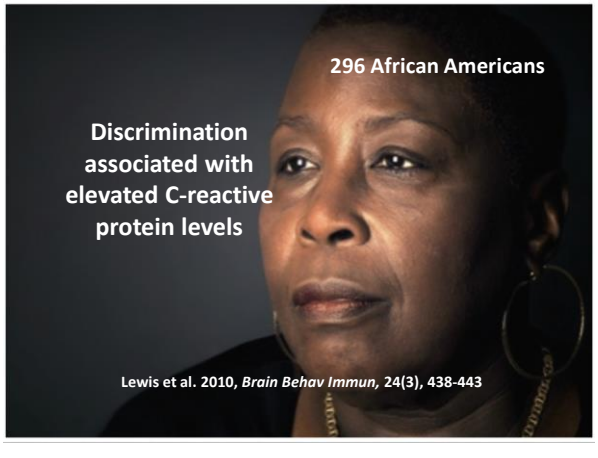

16,334 deliveries at VA Hospital 2000-2012
7.4% no PTSD
8% previous PTSD
9.2% current PTSD
Shaw et al. 2014, *Obstet Gynecol, 124*(6), 1111-1119

2,654 women in U.S.
Yonkers et al. 2014. *JAMA Psychiatry, 71*(8), 897-904
Women with PTSD and major depression had 4 times the risk of preterm birth

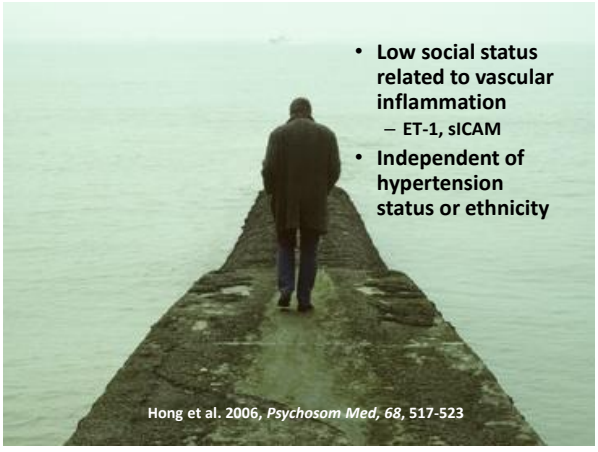

Inflammation high in stressed and depressed mothers
Inflammation molecules ripen the cervix
Coussons-Read et al. 2005, *Psychosom Med, 67*, 625-631

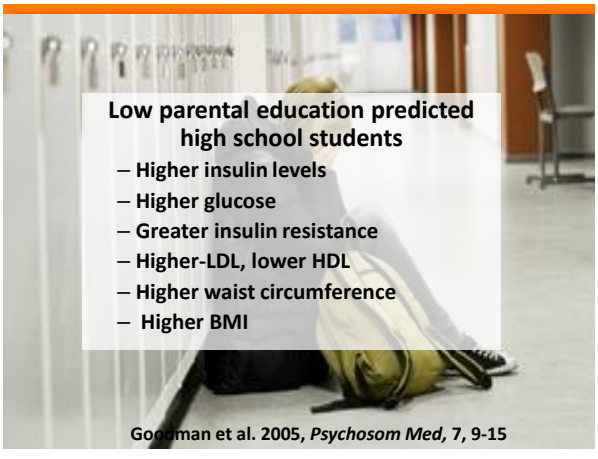

Smuts et al. 2003, *Obstet Gyn, 101,* 469-479
291 low-income moms
DHA-enriched eggs increased gestation length by 6 days (+ 2.3 days)

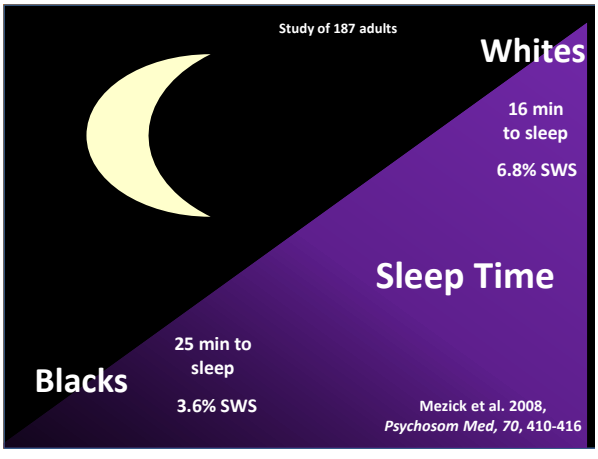

Discrimination as Adversity

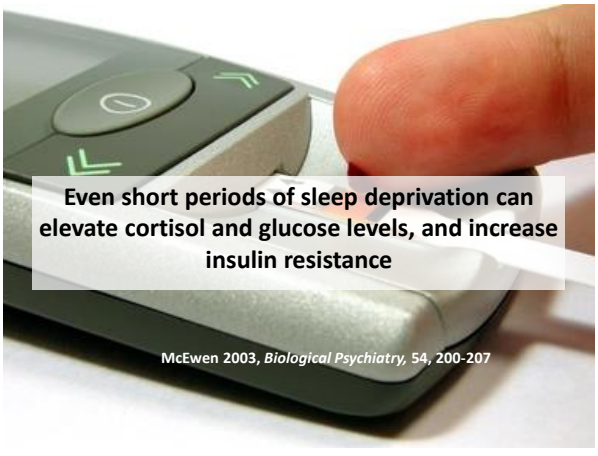

296 African Americans
Discrimination associated with elevated C-reactive protein levels
Lewis et al. 2010, *Brain Behav Immun,* 24(3), 438-443

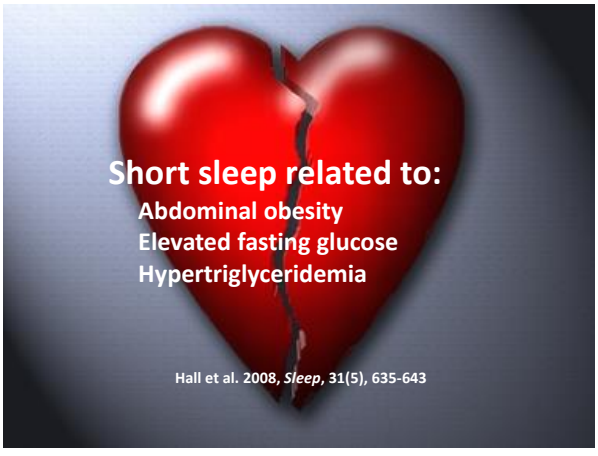
• Perceived discrimination
– You are treated with less courtesy other people
– You are treated with less respect than other people
– You receive poorer service than other people at restaurants and stores
– People act as if they think you are not smart
Lewis et al. 2010, *Brain Behav Immun*, 24(3), 438-443


• Low social status related to vascular inflammation
– ET-1, sICAM
• Independent of hypertension status or ethnicity
Hong et al. 2006, *Psychosom Med, 68*, 517-523

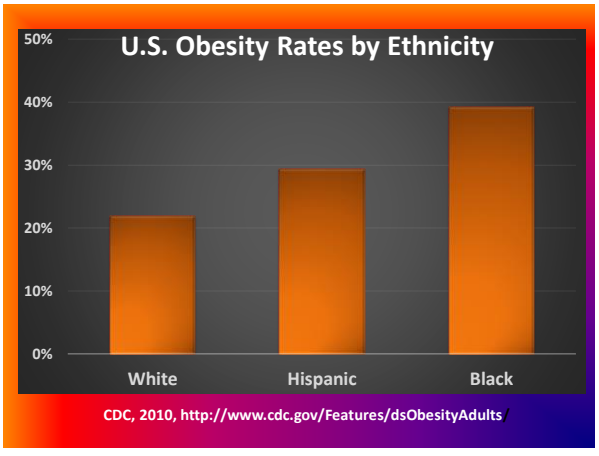

Low parental education predicted high school students
– Higher insulin levels
– Higher glucose
– Greater insulin resistance
– Higher-LDL, lower HDL
– Higher waist circumference
– Higher BMI
Goodman et al. 2005, *Psychosom Med,* 7, 9-15


Study of 187 adults
Whites
16 min to sleep
6.8% SWS
Sleep Time
Blacks
25 min to sleep
3.6% SWS
Mezick et al. 2008, *Psychosom Med, 70*, 410-416

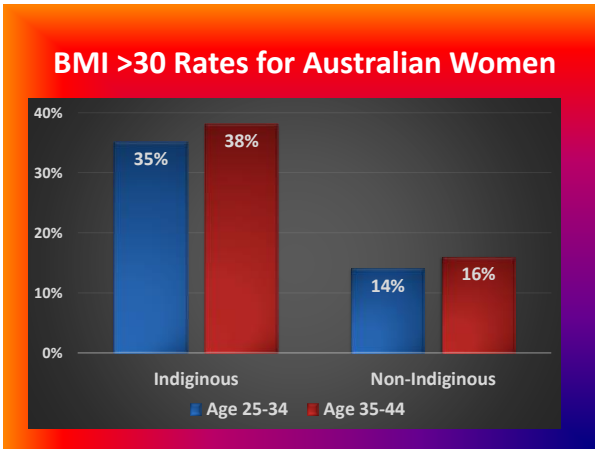

Even short periods of sleep deprivation can elevate cortisol and glucose levels, and increase insulin resistance
McEwen 2003, *Biological Psychiatry,* 54, 200-207

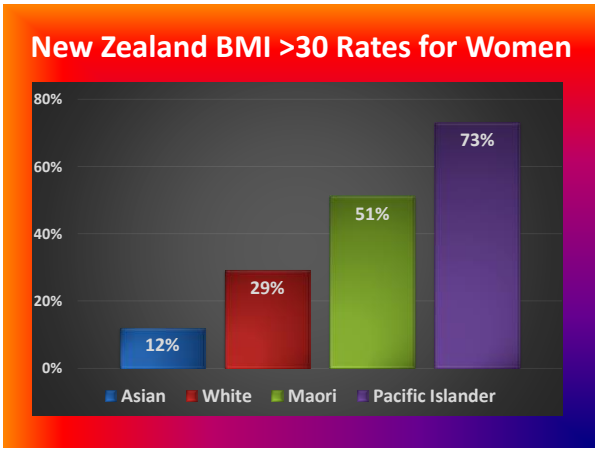

Short sleep related to:
Abdominal obesity
Elevated fasting glucose
Hypertriglyceridemia
Hall et al. 2008, *Sleep*, 31(5), 635-643

BMI is related to race/ethnicity

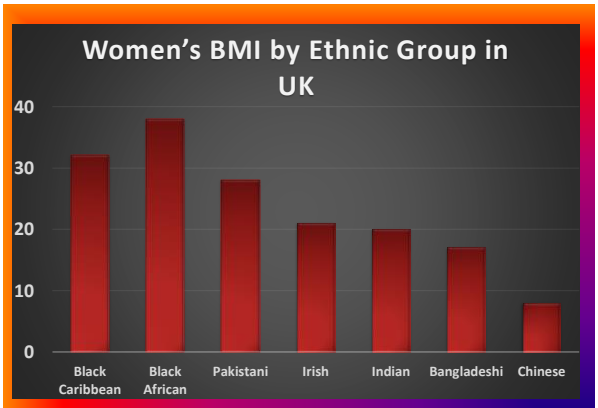

U.S. Obesity Rates by Ethnicity
50%
40%
30%
20%
10%
0%
White
Hispanic
Black
CDC, 2010, http://www.cdc.gov/Features/dsObesityAdults/

The same is true in Australia and New Zealand

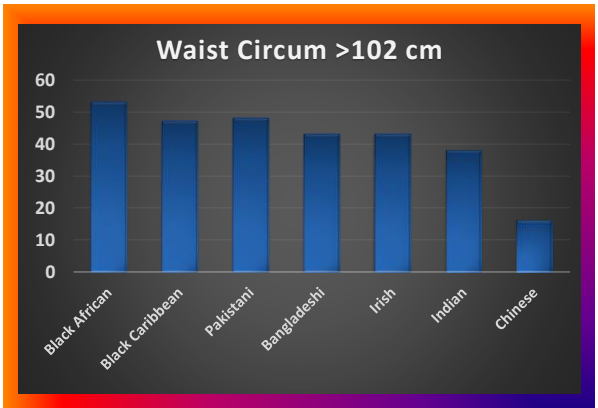

BMI >30 Rates for Australian Women
40%
30%
20%
10%
0%
35%
38%
14%
16%
Indiginous
Non-Indiginous
Age 25-34
Age 35-44


New Zealand BMI >30 Rates for Women
80%
60%
40%
20%
0%
12%
29%
51%
73%
Asian
White
Maori
Pacific Islander

BMI >30 in the UK



NHS. 2011, *Obesity and ethnicity*

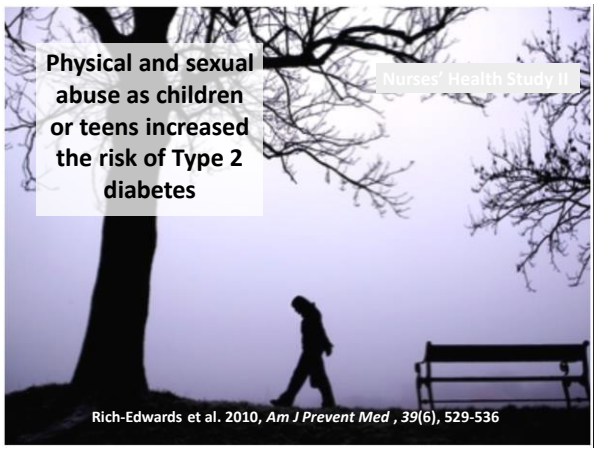


NHS. 2011, *Obesity and ethnicity*

Taubes, 2008; *Good calories, bad calories.* Knopf

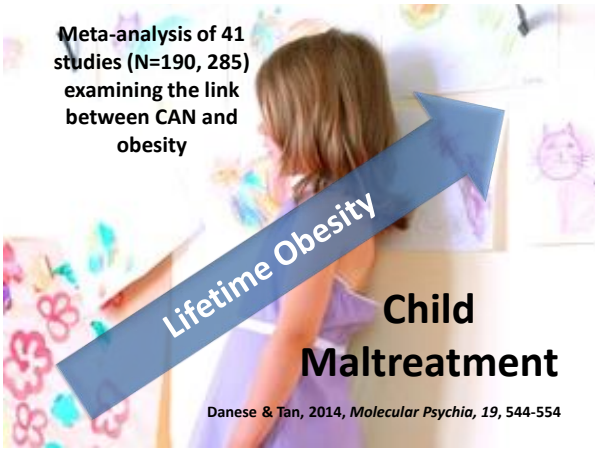
Harris MI, et al. *Diabetes.* 1987;36:523-534.
Flegal KM, et al. *Diabetes Care.* 1991;14(suppl 3):628-638.
Knowler WC, et al. *Diabetes Care.* 1993;16(suppl 1):216-227.
Fujimoto WY, et al. *Diabetes Res Clin Pract.* 1991;13:119-128.
Fujimoto WY, et al. *Diabetes.* 1987;36:721-729.

Trauma and BMI


Physical and sexual abuse as children or teens increased the risk of Type 2 diabetes
Nurses' Health Study II
Rich-Edwards et al. 2010, *Am J Prevent Med* , *39*(6), 529-536

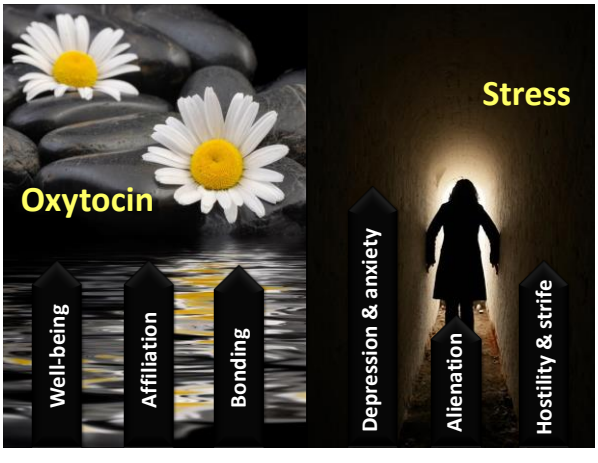
• 50% increase in diabetes risk for severe physical abuse
• 69% increase for repeated forced sex
Rich-Edwards et al. 2010, *Am J Prevent Med*, *39*(6), 529-536

• Physically and sexually abused girls had higher BMIs
• Trajectories grew wider as the girls grew
• Particularly for those who experienced repeated forced sex
Rich-Edwards et al. 2010, An


Meta-analysis of 41 studies (N=190, 285) examining the link between CAN and obesity
Lifetime Obesity
Child Maltreatment
Danese & Tan, 2014, Molecular Psychia, 19, 544-554

How does breastfeeding protect against the effects of adversity?

It's more than milk


Oxytocin
Well-being
Affiliation
Bonding
Stress
Depression & anxiety
Alienation
Hostility & strife

Short-term lessening of the stress response
Response to induced stressor
ACTH
Cortisol
Baby at the Breast Lowers Mothers' Stress
Heinrichs et al. 2001, J Clin Endo Metabol, 86, 4798-4804

Hypertension
Diabetes
CVD
High Triglycerides
Lifetime Protection For Mothers
Schwartz et al. 2009, *Obstet Gyn, 113*, 974-982

Attachment is essential to survival above and beyond food and shelter

Ainsworth & Bowlby 1991, *Am Psychologist*, *46*, 333-341
Proximity and maternal responsiveness promote secure attachment

14-year longitudinal study in W. Australia of 2900 pregnant women
Breastfeeding >12 months
=
Better child mental health
Oddy et al. 2009, *J Pediatrics 156*, 568-574

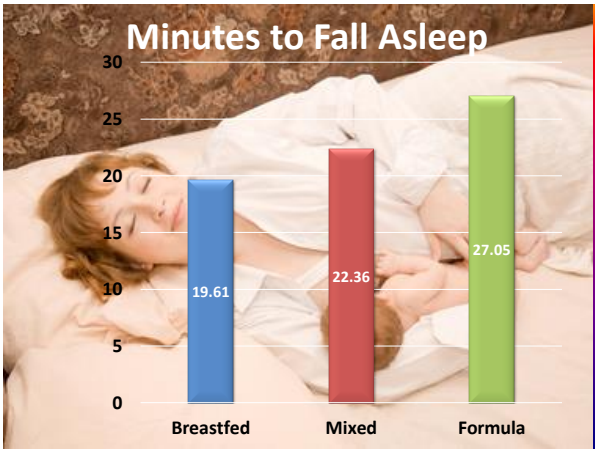
Child Behavior Checklist Scores
Never BF
BF 12+ Months
Age 2 16.1 9.6
Age 5 26.3 16.0
Age 8 19.4 13.5
Age 10 15.2 12.6
Age 14 16.7 10.9

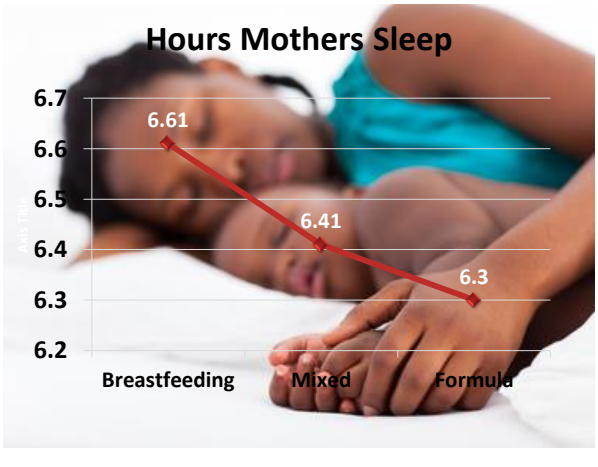
Secure Attachments Decrease Adult Health Problems

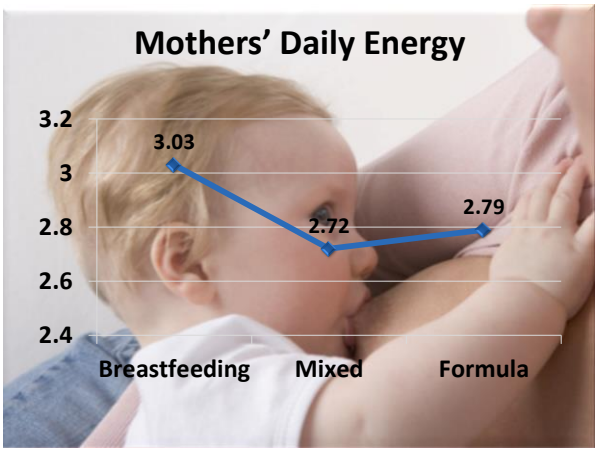
Insecure attachments at 12-18 months associated with inflammation-based illness at age 32
Puig et al. 2013, *Health Psychology, 32*(4), 409-417

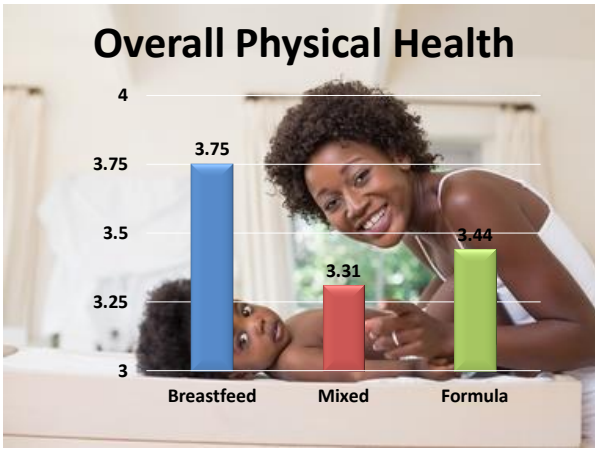
Breastfeeding lowers risk of intergenerational abuse and trauma

Infant sleep difficulties
Maternal depressed mood
Hairston et al. 2011 *Sleep, 34*(10), 1373-1383

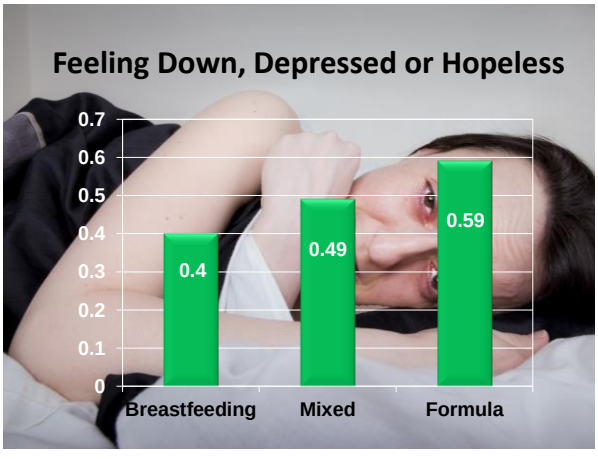

Minutes to Fall Asleep
30
25
20
15
10
5
0
19.61
22.36
27.05
Breastfed
Mixed
Formula

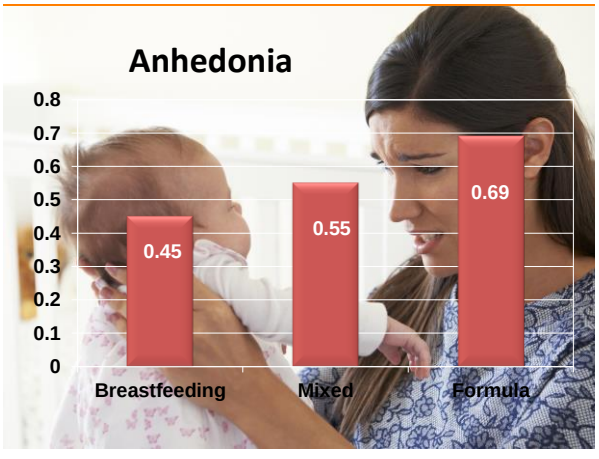

Hours Mothers Sleep
6.7
6.6
6.5
6.4
6.3
6.2
6.61
6.41
6.3
Breastfeeding
Mixed
Formula

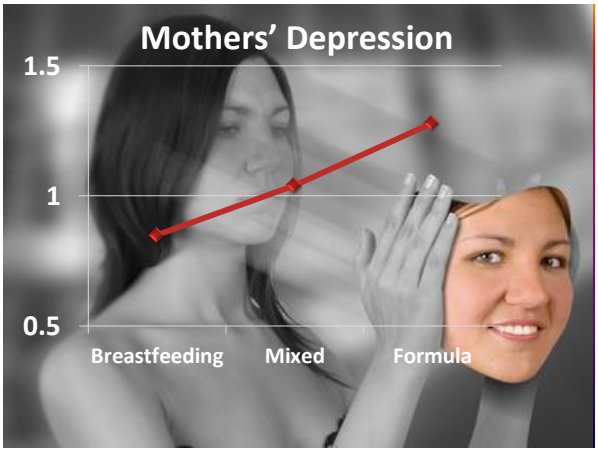

Mothers' Daily Energy
3.2
3
2.8
2.6
2.4
3.03
2.72
2.79
Breastfeeding
Mixed
Formula


Overall Physical Health
4
3.75
3.5
3.25
3
3.75
3.31
3.44
Breastfeed
Mixed
Formula

Maternal Mental Health
Groer & Kendall-Tackett (2011) Breastfeeding protects women's health throughout the lifespan. Amarillo, TX: Hale Publishing


Feeling Down, Depressed or Hopeless
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.4
0.49
0.59
Breastfeeding
Mixed
Formula


Anhedonia
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.45
0.55
0.69
Breastfeeding
Mixed
Formula


Mothers' Depression
1.5
1
0.5
Breastfeeding
Mixed
Formula

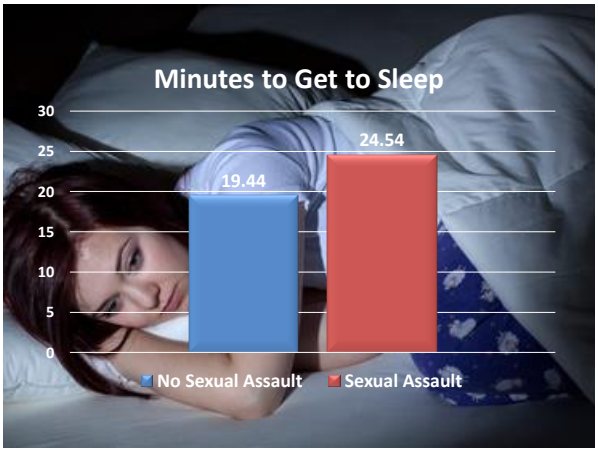
Does breastfeeding help with child abuse?

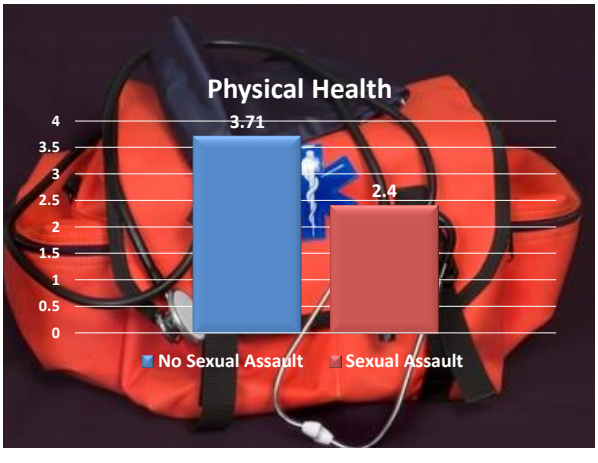
15-year longitudinal study, 7,223 Australian mother-infant dyads
Mothers who breastfed for 4 months were 3.8 times less likely to neglect their children
Strathearn et al. 2009, *Pediatrics, 123*, 483-493

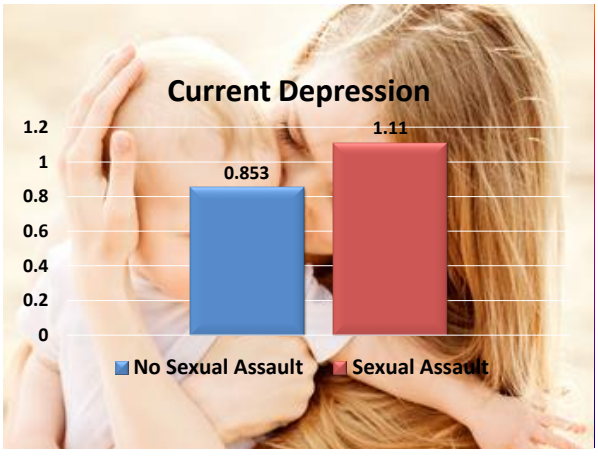
VIOLENCE
And 2.6 times less likely to physically abuse them
Strathearn et al. 2009, *Pediatrics, 123*, 483-493

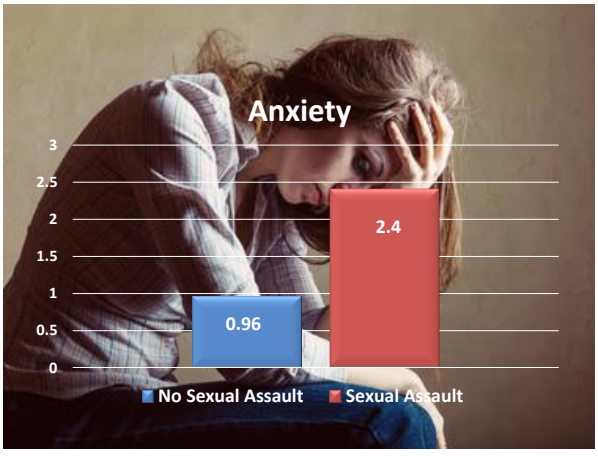
The Impact of Sexual Assault

Total Sleep Time
6.65
6.6
6.55
6.5
6.45
6.4
6.35
6.59
6.44
No Sexual Assault
Sexual Assault

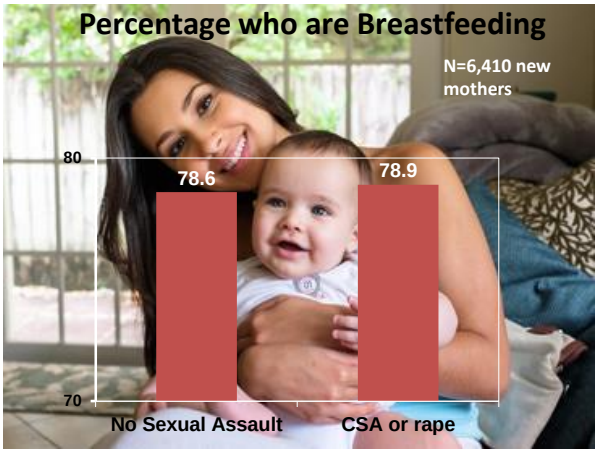

Minutes to Get to Sleep
30
25
20
15
10
5
0
19.44
24.54
No Sexual Assault
Sexual Assault

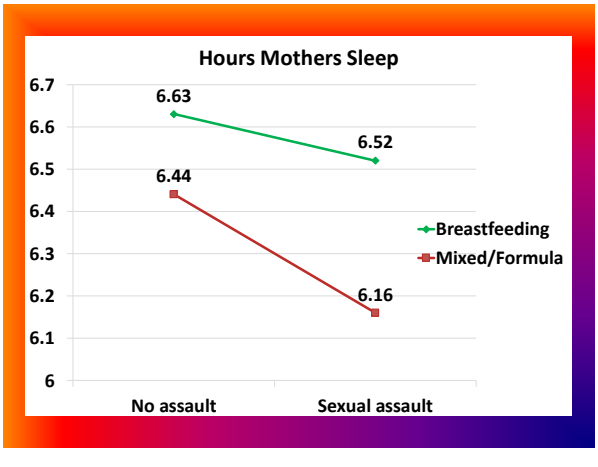

Physical Health
4
3.5
3
2.5
2
1.5
1
0.5
0
3.71
2.4
No Sexual Assault
Sexual Assault

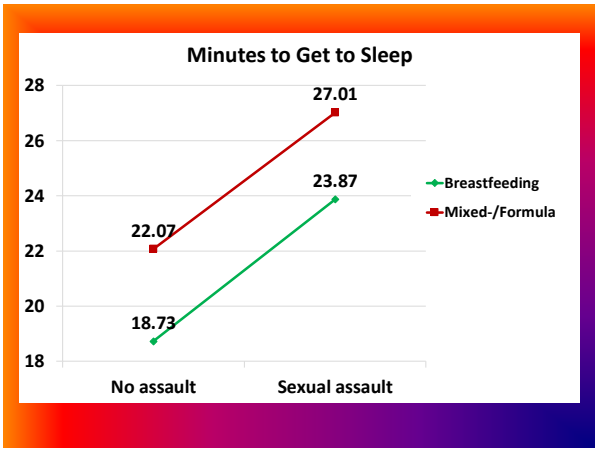

Current Depression
1.2
1
0.8
0.6
0.4
0.2
0
0.853
1.11
No Sexual Assault
Sexual Assault

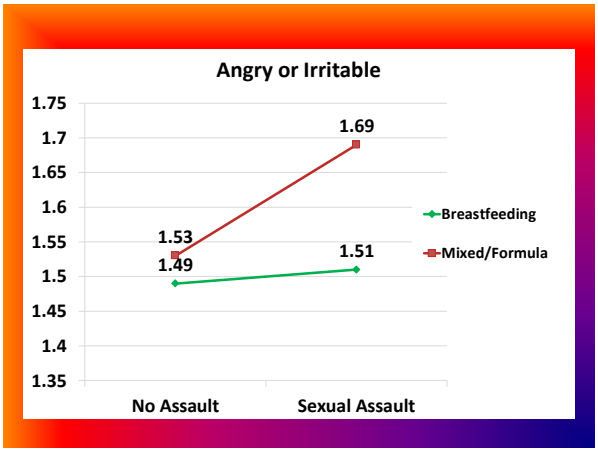

Anxiety
3
2.5
2
1.5
1
0.5
0
0.96
2.4
No Sexual Assault
Sexual Assault

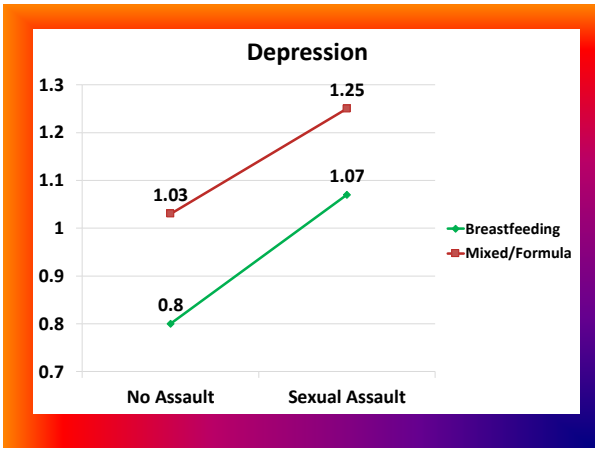
Does breastfeeding
help these mothers?

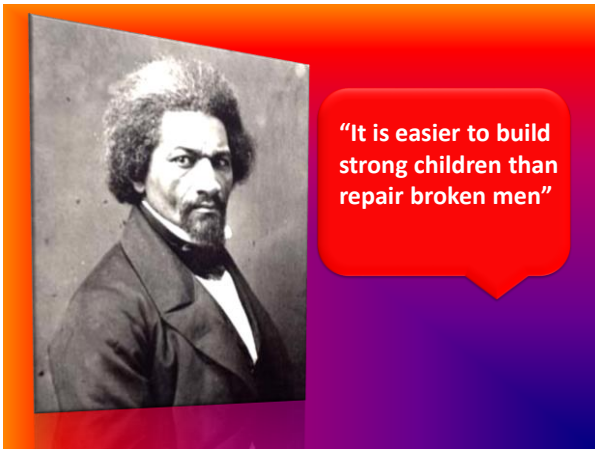

Percentage who are Breastfeeding
N=6,410 new mothers
80
70
78.6
78.9
No Sexual Assault
CSA or rape


Hours Mothers Sleep
6.7
6.6
6.5
6.4
6.3
6.2
6.1
6
6.63
6.52
6.44
6.16
Breastfeeding
Mixed/Formula
No assault
Sexual assault


Minutes to Get to Sleep
28
26
24
22
20
18
27.01
23.87
22.07
18.73
Breastfeeding
Mixed-/Formula
No assault
Sexual assault


Angry or Irritable
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.53
1.69
1.49
1.51
No Assault
Sexual Assault
Breastfeeding
Mixed/Formula


Depression
1.3
1.2
1.1
1
0.9
0.8
0.7
1.03
1.25
0.8
1.07
No Assault
Sexual Assault
Breastfeeding
Mixed/Formula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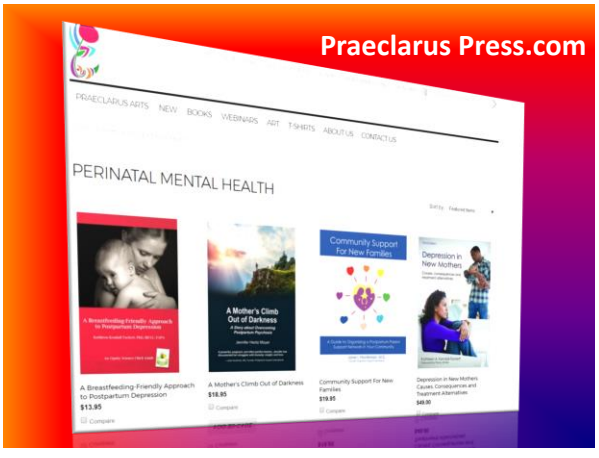
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