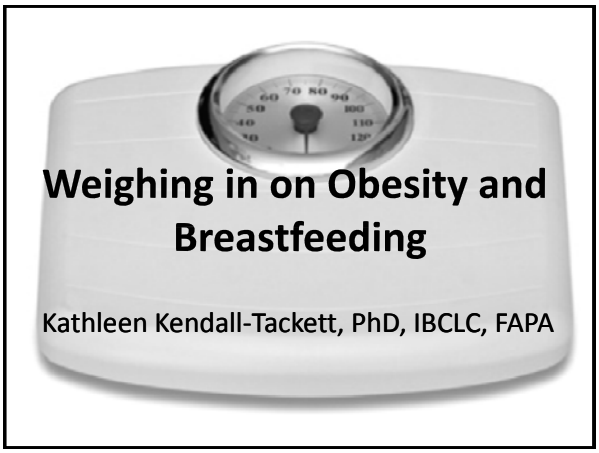
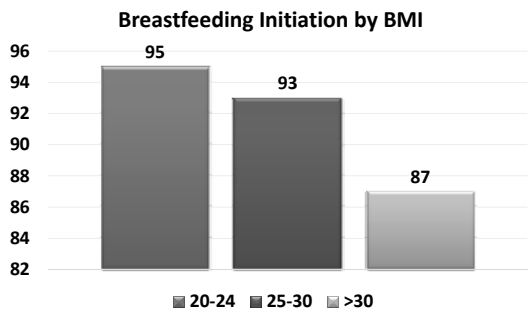


Weighing in on Obesity and Breastfeeding

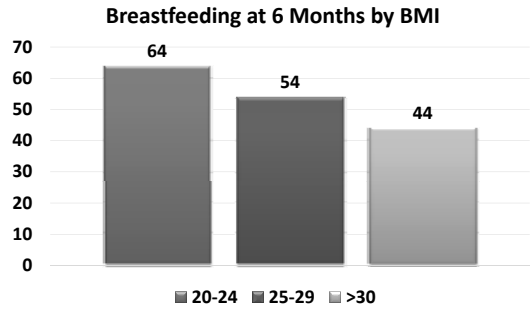
Kathleen Kendall-Tackett, PhD, IBCLC, FAPA

Breastfeeding in women with higher BMIs

Longitudinal Study of Australian Children (N=3075)



Donath & Amir 2008, *Mat Child Health Nutr, 4*, 163-170

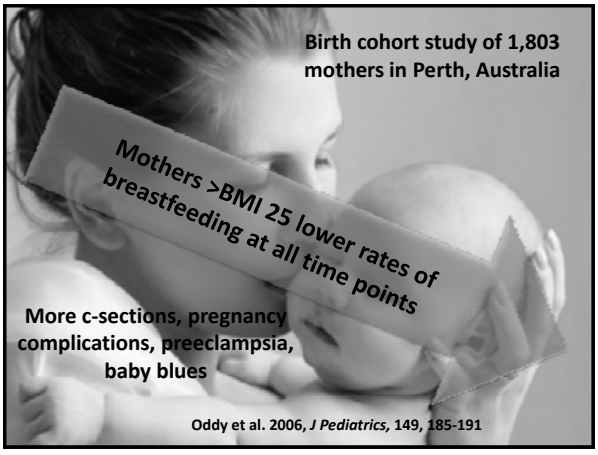


Donath & Amir 2008, *Mat Child Health Nutr, 4*, 163-170

Study of 592 adult women in Brazil

Women with pre-pregnant BMI >30 more likely to supplement early

Fernandes et al. *J Hum Lact* 2012, *22*(1), 55-61



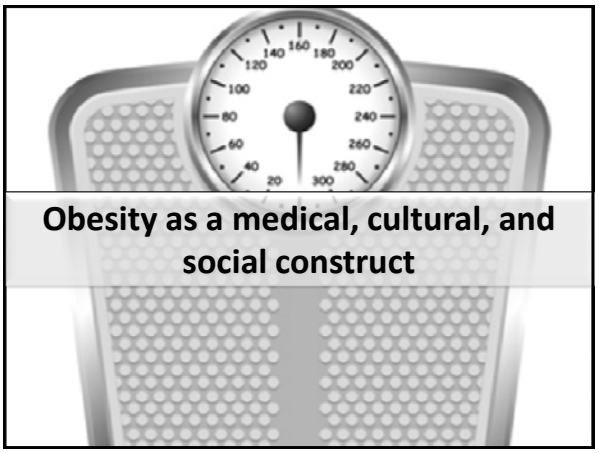
Birth cohort study of 1,803 mothers in Perth, Australia

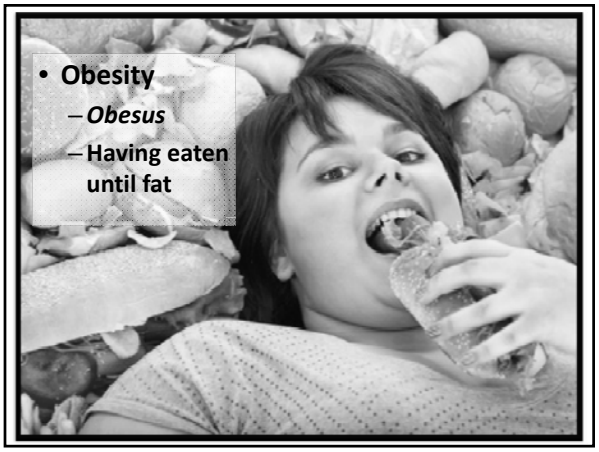
Mothers >BMI 25 lower rates of breastfeeding at all time points

More c-sections, pregnancy complications, preeclampsia, baby blues

Oddy et al. 2006, *J Pediatrics,* 149, 185-191


Our efforts to address this problem have largely failed

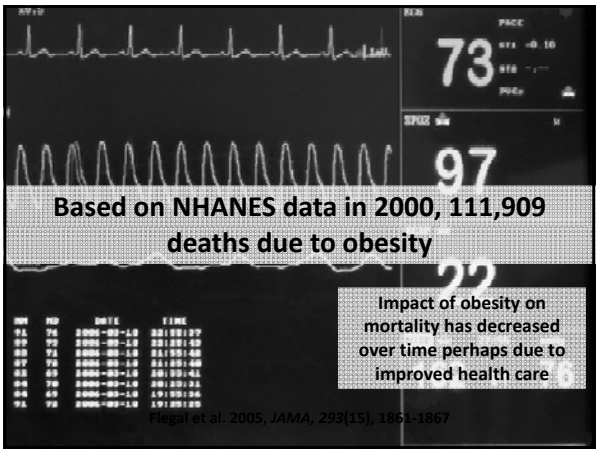

Obesity as a medical, cultural, and social construct


• Obesity
– *Obesus*
– Having eaten until fat

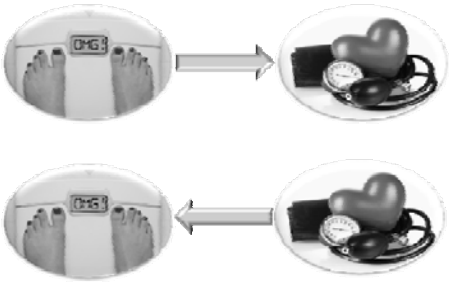

• Pejorative
• Imprecise
• Inaccurate

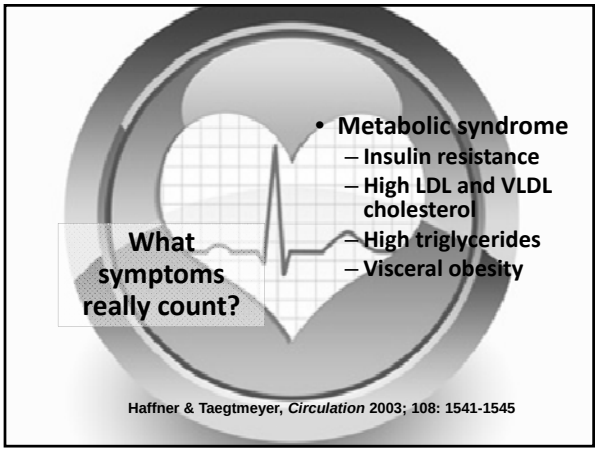

DIABETES
STROKE
SLEEP APNEA
HYPERTENSION
HYPERLIPIDEMIA
HEART DISEASE
ABDOMINAL HERNIA


• Earlier reports claimed 400,000 deaths per year due to obesity

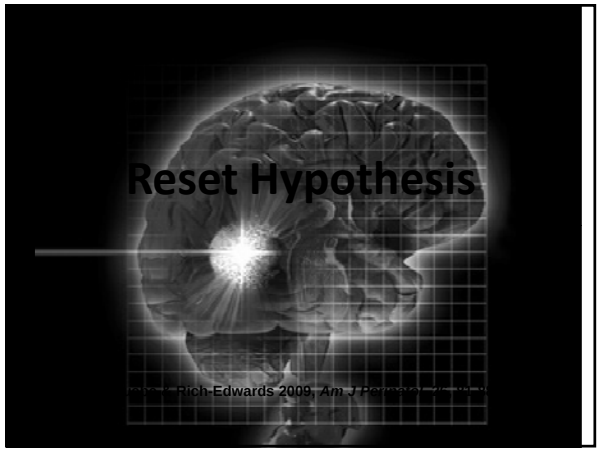


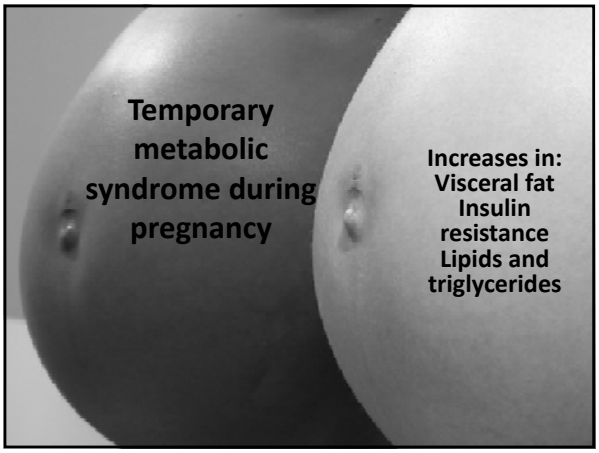
- What about fat and disease?



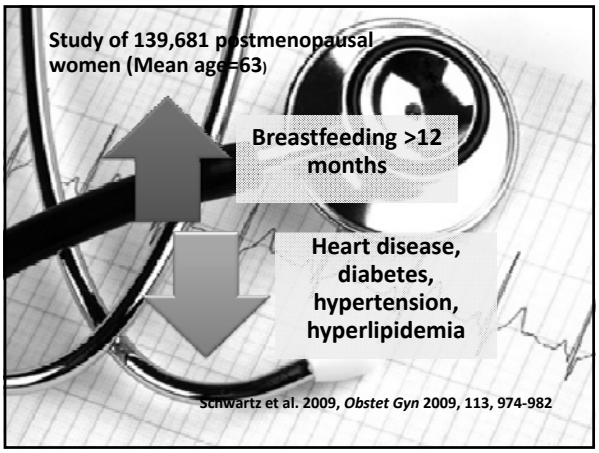


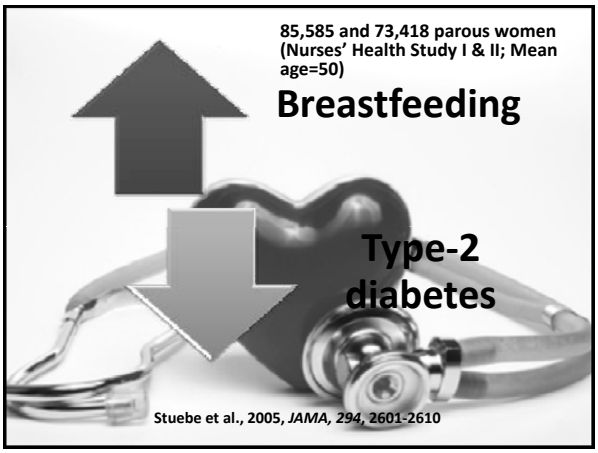
- Metabolic syndrome
  - Insulin resistance
  - High LDL and VLDL cholesterol
  - High triglycerides
  - Visceral obesity



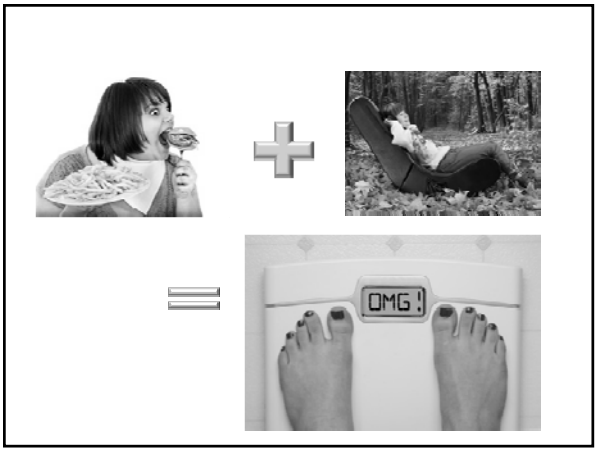


- Breastfeeding helps reverse, or reset, these changes
- For maternal metabolism, pregnancy ends with weaning, not birth


Study of 139,681 postmenopausal women (Mean age=63)
Breastfeeding >12 months
Heart disease, diabetes, hypertension, hyperlipidemia
Schwartz et al. 2009, *Obstet Gyn* 2009, 113, 974-982


85,585 and 73,418 parous women (Nurses' Health Study I & II; Mean age=50)
Breastfeeding
Type-2 diabetes
Stuebe et al., 2005, *JAMA, 294*, 2601-2610


• What causes weight gain?
OMG!


OMG!


Food Choices
< Exercise
Sleep Problems
Stress
Trauma
Genetics/ Epigenetics
Why We Get Fat


• Food problems
– Insulin
– Satiety mechanisms

- Insulin is the principle regulator of fat metabolism
- Insulin resistance often precedes weight gain

Taubes, 2011, *Why we get fat:* Knopf

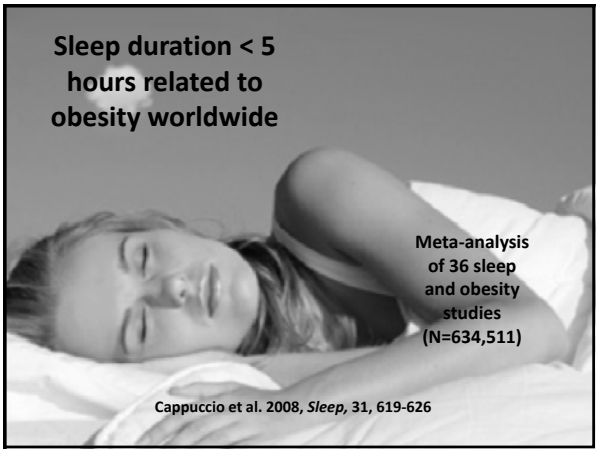
- Overriding Satiety Mechanisms

- Bottle feeding
- Baby food

- Bottle-feeding affects infants' self-regulation of milk
- Study of 1205 infants
  - 27% of EBF infants emptied bottle or cup in late infancy
  - 54% of infants fed by bottle and breast
  - 68% of infants fed by bottle only

Li et al. *Pediatrics* 2010: 125; e1368-e1393.

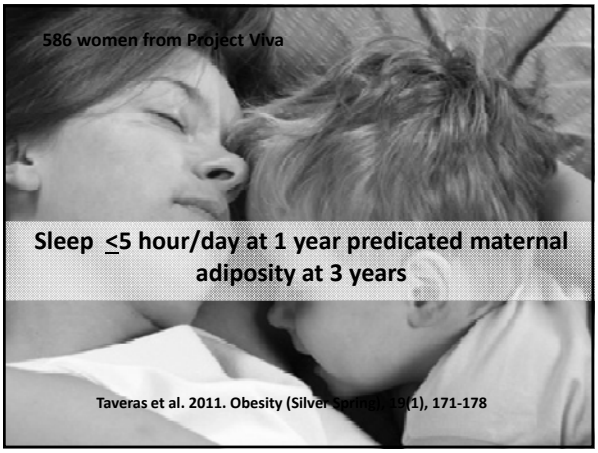
Sleep duration < 5 hours related to obesity worldwide



Meta-analysis of 36 sleep and obesity studies (N=634,511)

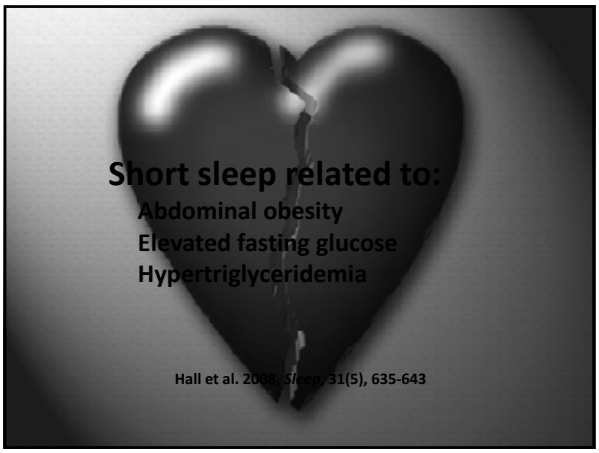
Cappuccio et al. 2008, *Sleep,* 31, 619-626

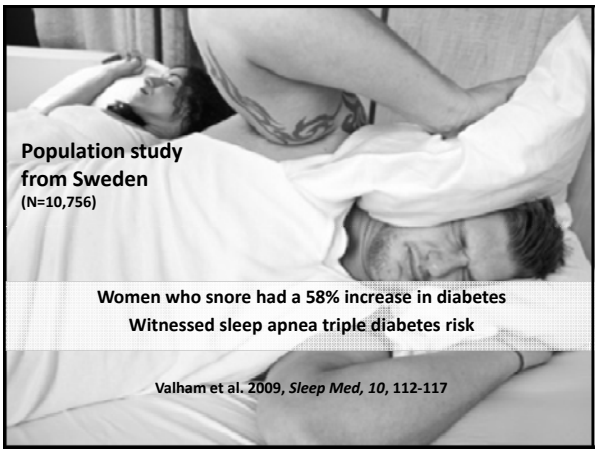
586 women from Project Viva



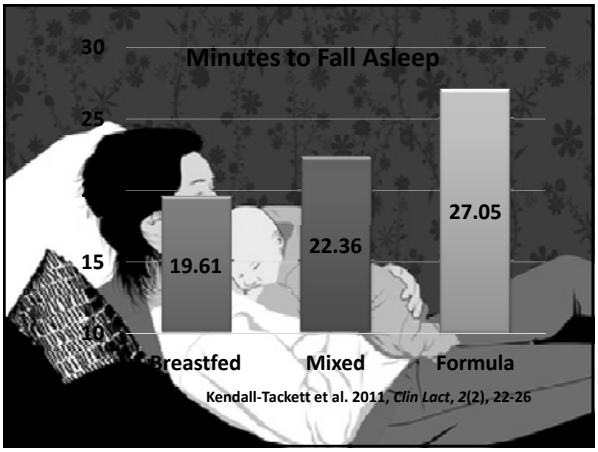
Sleep ≤5 hour/day at 1 year predicated maternal adiposity at 3 years

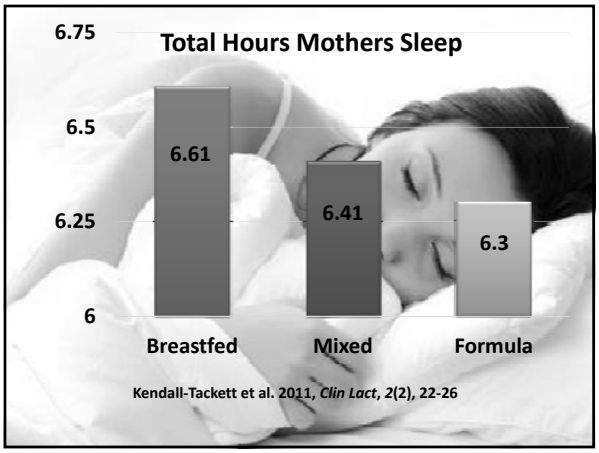
Taveras et al. 2011. Obesity (Silver Spring), 19(1), 171-178

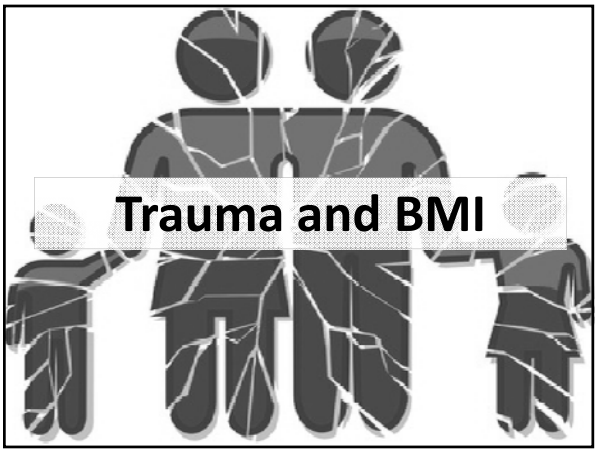

Short sleep related to:
Abdominal obesity
Elevated fasting glucose
Hypertriglyceridemia
Hall et al. 2008, *Sleep*, 31(5), 635-643

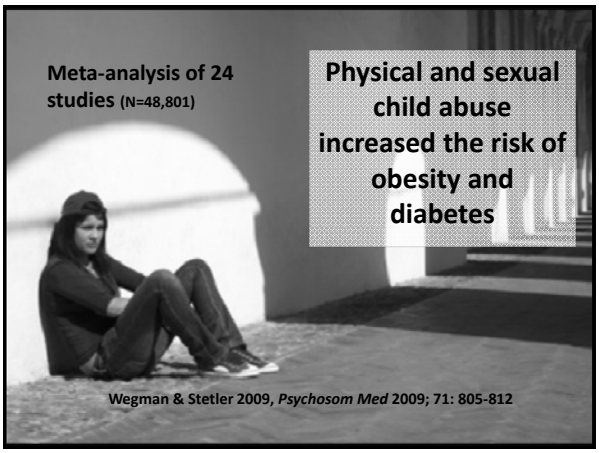

Population study
from Sweden
(N=10,756)
Women who snore had a 58% increase in diabetes
Witnessed sleep apnea triple diabetes risk
Valham et al. 2009, *Sleep Med, 10*, 112-117

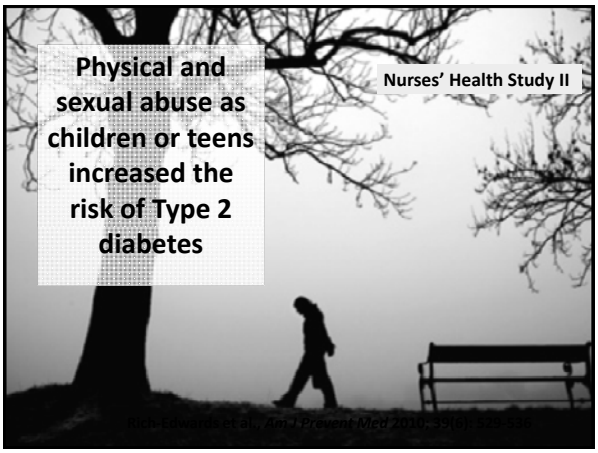

Impact of Breastfeeding
on Mothers' Sleep

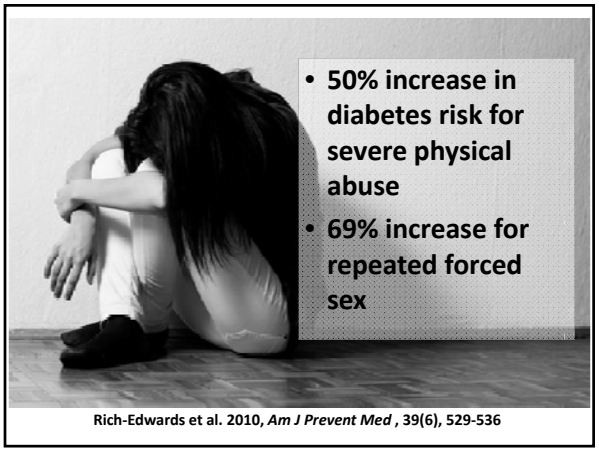

Minutes to Fall Asleep
30
25
15
10
19.61
22.36
27.05
Breastfed
Mixed
Formula
Kendall-Tackett et al. 2011, *Clin Lact*, *2*(2), 22-26


Total Hours Mothers Sleep
6.75
6.5
6.25
6
6.61
6.41
6.3
Breastfed
Mixed
Formula
Kendall-Tackett et al. 2011, *Clin Lact*, *2*(2), 22-26

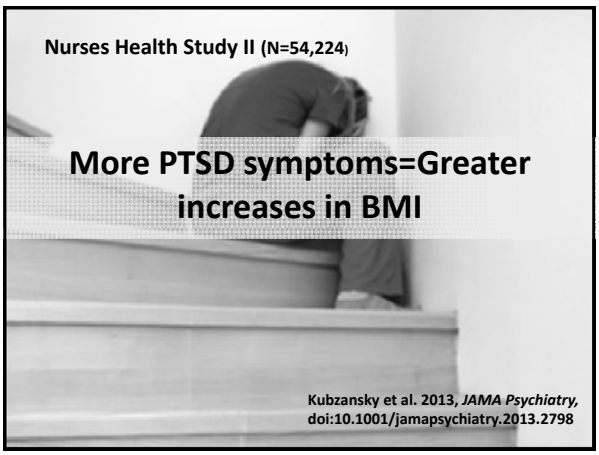

Trauma and BMI

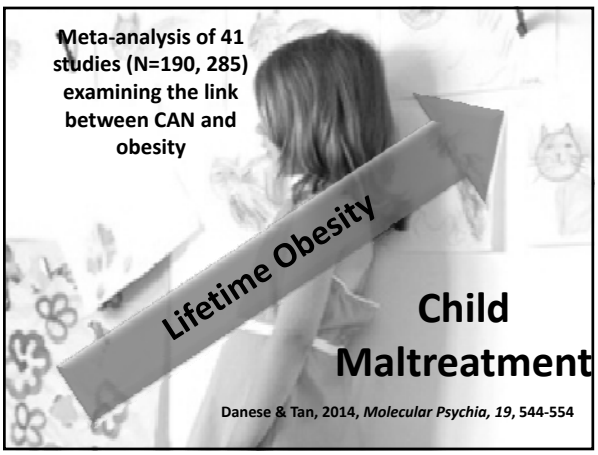

Meta-analysis of 24 studies (N=48,801)
Physical and sexual child abuse increased the risk of obesity and diabetes
Wegman & Stetler 2009, *Psychosom Med* 2009; 71: 805-812

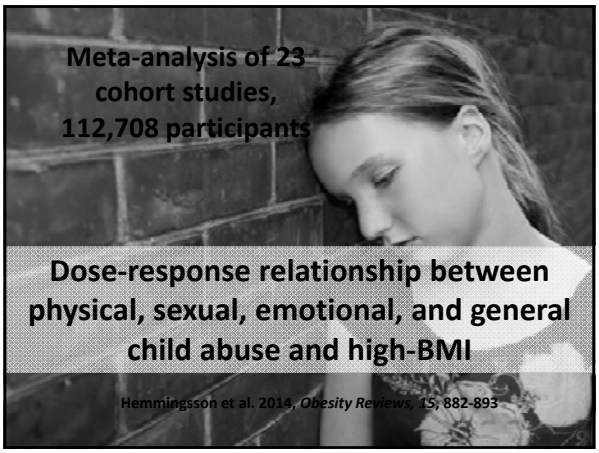

Physical and sexual abuse as children or teens increased the risk of Type 2 diabetes
Nurses' Health Study II


• 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

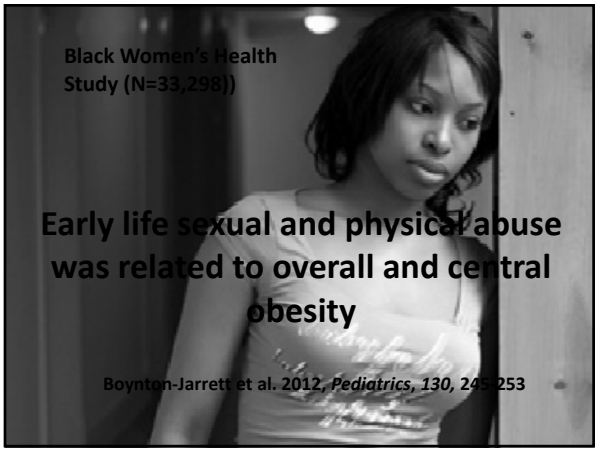

Rich-Edwards et al. 2010, *Am*

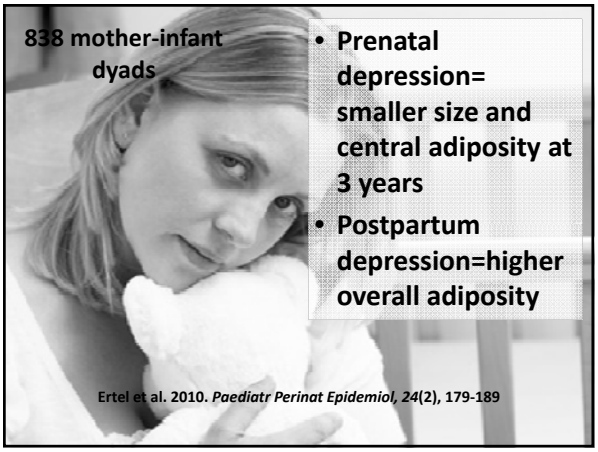

Nurses Health Study II (N=54,224)
More PTSD symptoms=Greater increases in BMI
Kubzansky et al. 2013, *JAMA Psychiatry,* doi:10.1001/jamapsychiatry.2013.2798


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

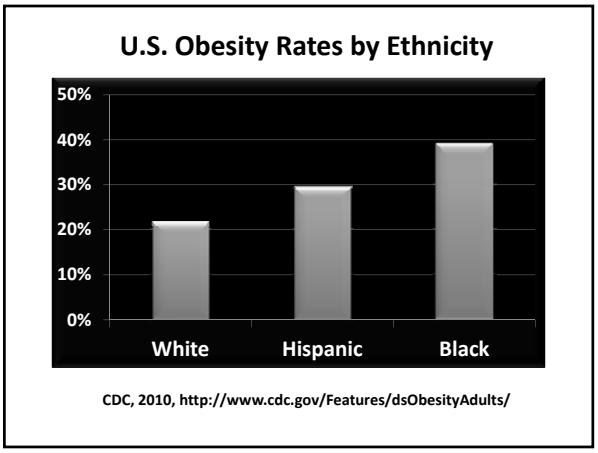

Meta-analysis of 23 cohort studies, 112,708 participants
Dose-response relationship between physical, sexual, emotional, and general child abuse and high-BMI
Hemmingsson et al. 2014, *Obesity Reviews, 15*, 882-893


Severe abuse significantly more associated with obesity compared with light/moderate abuse
Hemmingsson et al. 2014, *Obesity Reviews, 15*, 882-893

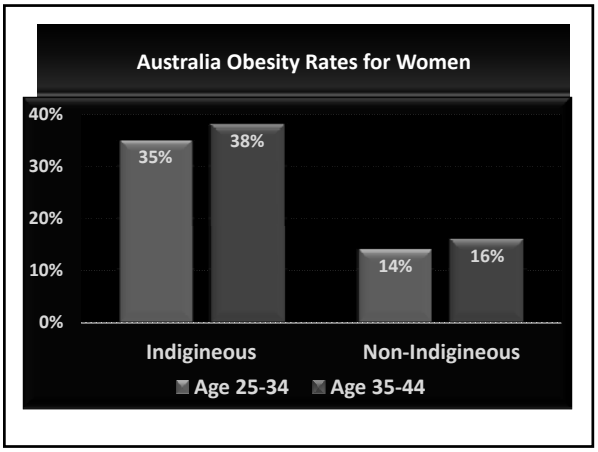

Black Women's Health Study (N=33,298))
Early life sexual and physical abuse was related to overall and central obesity
Boynton-Jarrett et al. 2012, *Pediatrics, 130*, 245-253

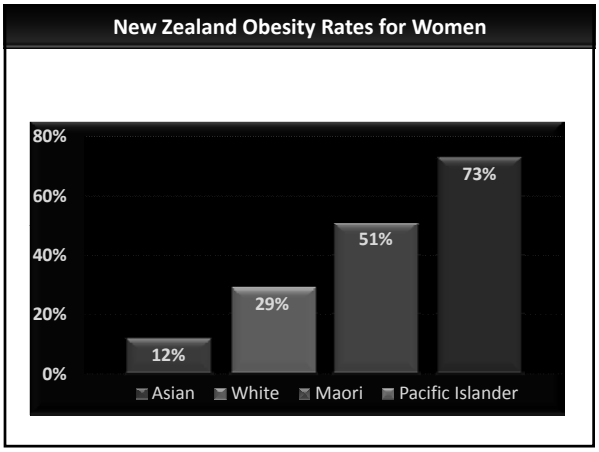

838 mother-infant dyads
• Prenatal depression= smaller size and central adiposity at 3 years
• Postpartum depression=higher overall adiposity
Ertel et al. 2010. *Paediatr Perinat Epidemiol, 24*(2), 179-189


• Obesity is strongly connected to race and social class

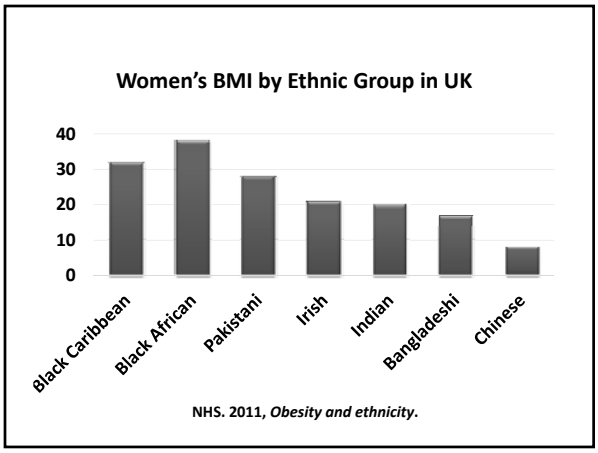

U.S. Obesity Rates by Ethnicity
50%
40%
30%
20%
10%
0%
White
Hispanic
Black
CDC, 2010, http://www.cdc.gov/Features/dsObesityAdults/

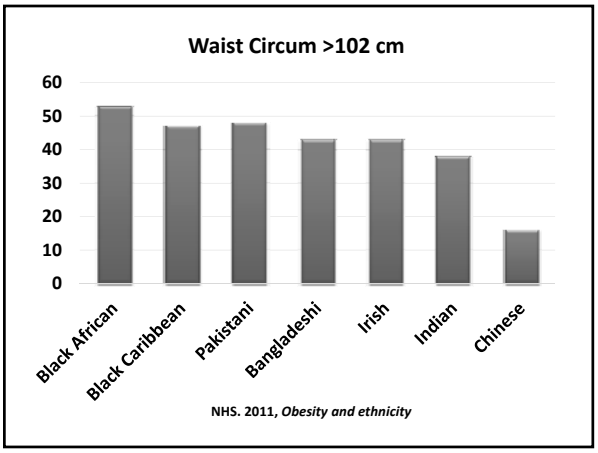

The same is true in Australia and New Zealand

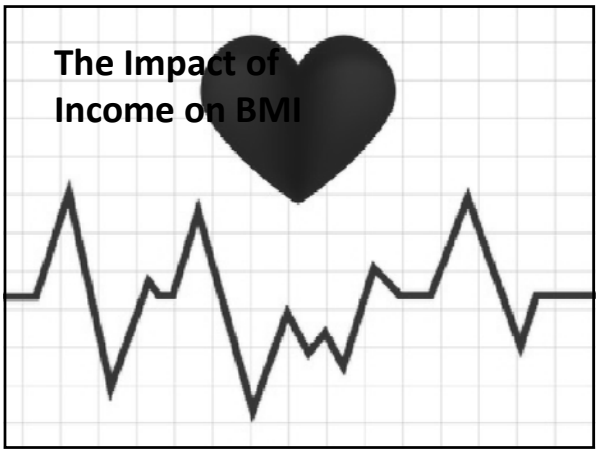

Australia Obesity Rates for Women
40%
30%
20%
10%
0%
35%
38%
14%
16%
Indigineous
Non-Indigineous
Age 25-34
Age 35-44

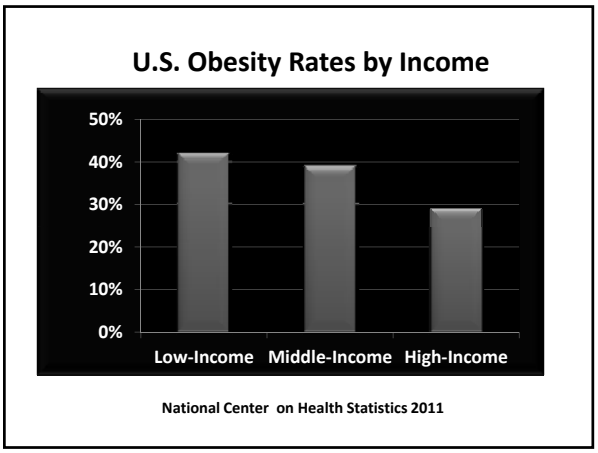

New Zealand Obesity Rates for Women
80%
60%
40%
20%
0%
12%
29%
51%
73%
Asian
White
Maori
Pacific Islander

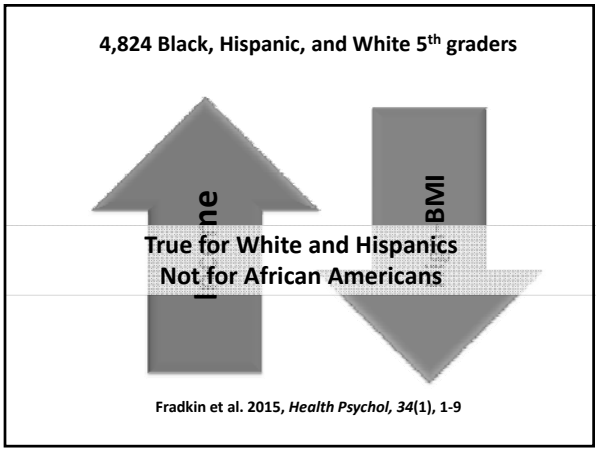

High BMI in the UK

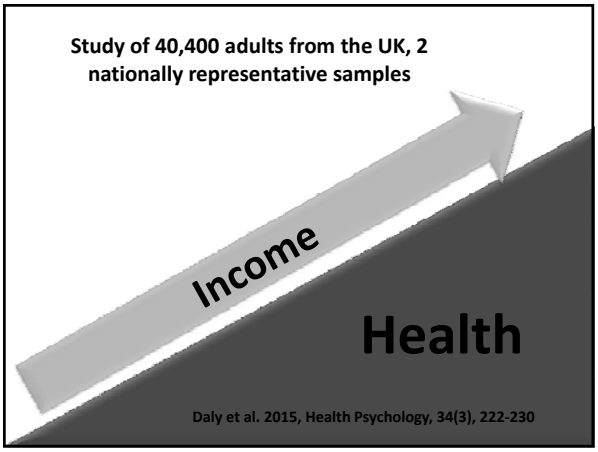

Women's BMI by Ethnic Group in UK
40
30
20
10
0
Black Caribbean
Black African
Pakistani
Irish
Indian
Bangladeshi
Chinese
NHS. 2011, Obesity and ethnicity.

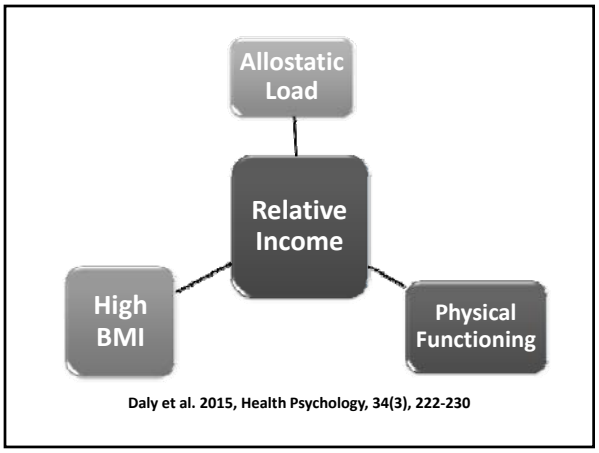

Waist Circum >102 cm
60
50
40
30
20
10
0
Black African
Black Caribbean
Pakistani
Bangladeshi
Irish
Indian
Chinese
NHS. 2011, Obesity and ethnicity


The Impact of
Income on BMI


U.S. Obesity Rates by Income
50%
40%
30%
20%
10%
0%
Low-Income
Middle-Income
High-Income
National Center on Health Statistics 2011


4,824 Black, Hispanic, and White 5th graders
Income
BMI
True for White and Hispanics
Not for African Americans
Fradkin et al. 2015, Health Psychol, 34(1), 1-9


Study of 40,400 adults from the UK, 2 nationally representative samples
Income
Health
Daly et al. 2015, Health Psychology, 34(3), 222-230


Allostatic Load
Relative Income
High BMI
Physical Functioning
Daly et al. 2015, Health Psychology, 34(3), 222-230


Social position, not material conditions, explain the impact of money on health
Daly et al. 2015, Health Psychology, 34(3), 222-230


Fat Hatred


facebook
you


Free 2M Me


Save the
Whales
LOSE THE BLUBBER: GO VEGETARIAN.

"Health practitioners are among the most insidious players in this fat-hating drama as they have legitimized the cultural mandate for thinness by reframing it as a health concern"

Bacon 2008, *Health at Every Size*. BenBella Books.

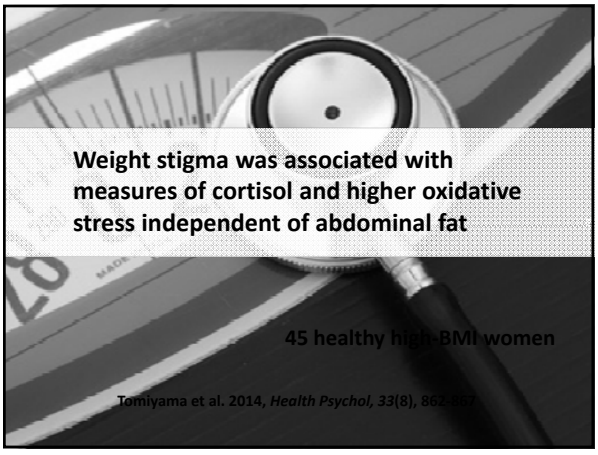
Fat-shaming may curb obesity, bioethicist says

By JoNel Aleccia, Staff Writer, NBC News

Unhappy with the slow pace of public health efforts to curb America's stubborn obesity epidemic, a prominent bioethicist is proposing a new

Ron Edmonds / AP file

Daniel Callahan, a prominent bioethicist, says heaping more stigma on

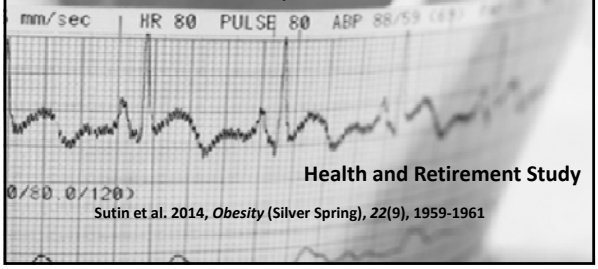


Weight stigma was associated with measures of cortisol and higher oxidative stress independent of abdominal fat

45 healthy high-BMI women

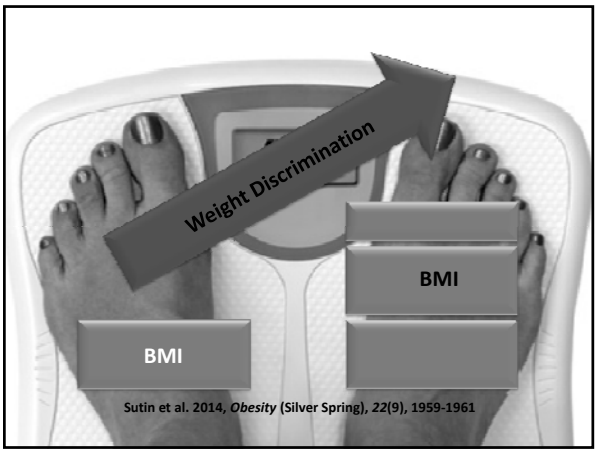
Tomiyama et al. 2014, *Health Psychol, 33*(8), 862-867

- There was a link between weight discrimination and circulating CRP
- For BMI 25-30, but not for >40



Health and Retirement Study

Sutin et al. 2014, *Obesity* (Silver Spring), *22*(9), 1959-1961



Sutin et al. 2014, *Obesity* (Silver Spring), *22*(9), 1959-1961

People with BMI >30 who experienced weight discrimination were 3 times more likely to remain BMI >30 than those who had not experienced discrimination

Sutin et al. 2013, *PLoS One*, *8*(7), e70048

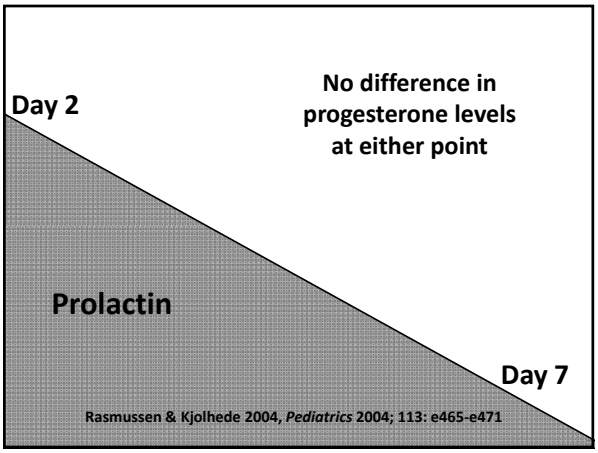
Why is breastfeeding initiation and duration lower in high-BMI mothers?

Study of 40 women (17 BMI >26)

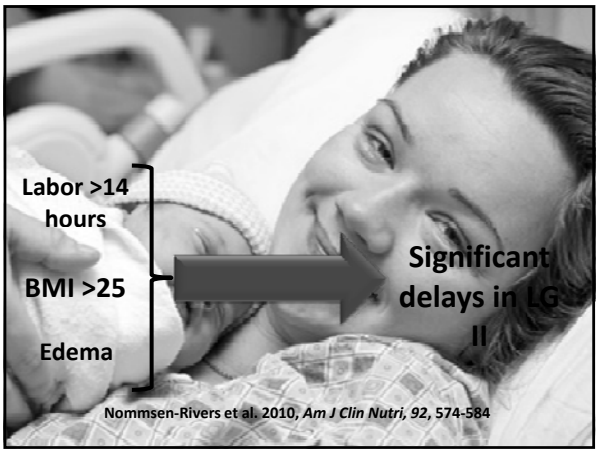
BMI

Progesterone < Prolactin

Rasmussen & Kjolhede 2004, *Pediatrics*, 113, e465-e471



Rasmussen & Kjolhede 2004, *Pediatrics* 2004; 113: e465-e471


Labor >14 hours
BMI >25
Edema
Significant delays in LG II
Nommsen-Rivers et al. 2010, *Am J Clin Nutri, 92*, 574-584


• Hispanic women had decreased breastfeeding initiation and duration
• African American women did not
587 Hispanic women, 640 African American women with >30 BMI
Kugyelka et al. 2004, *J Nutri*, 134, 1746-1753


BMI >26
Breastfeeding Initiation
Prospective study of 688 mothers
Not related to depression, anxiety, stress, and self-esteem
Mehta et al., 2011 *Breastfeeding Med;* 6(6): 369-376


Meta-analysis of 11 studies
• For women with BMI >30
– Elective c-section for 1.87 times more likely
– Emergency c-section 2.23 times more likely
Poobalan et al. 2009, *Obesity Rev, 10*, 28-35


• Women with BMIs >50
– 49% c-section rate
– 34% scheduled c-sections
Marshall et al. 2010, *Acta Obstet Gyn Scand, 89*, 924-930


How shall we then treat?


• Targeted interventions for higher-BMI women have not improved rates
Anstey & Jevitt, *Clin Lact* 2011; 2(3), 11-16

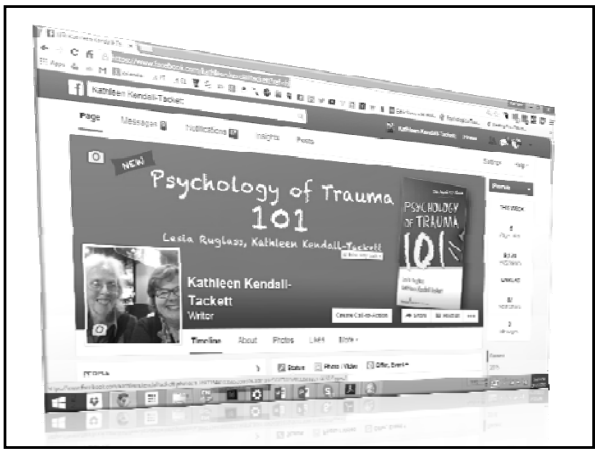

• We need more research on why BMI>30 women have lower breastfeeding initiation rates
• Need to include measures of trauma, perception of birth, body image


▪ We need non-stigmatizing ways to reach mothers with higher BMIs
▪ We need to avoid creating self-fulfilling prophecies and/or shaming high-BMI women


Recognize that weight bias may be influencing your interactions with mothers


HUMAN
RIGHTS


Let's make lactation a safe place to be for all mothers-- regardless of size


Psychology of Trauma
101
Lesia Ruglass, Kathleen Kendall-Tackett
Kathleen Kendall-Tackett
Writer


www.PraeclarusPress.com
www.UppityScienceChick.com
www.BreastfeedingMadeSimple.com
www.KathleenKendall-Tackett.com