

# Breastfeeding: Reclaiming an African American Tradition

Michal A. Young, M.D., FAAP

Associate Professor and Director, NICU and Newborn Nurseries

Department of Pediatrics and Child Health

Howard University College of Medicine/Howard University Hospital

Chapter Breastfeeding Coordinator, DC Chapter AAP

Board Member, DC Breastfeeding Coalition



# Disclosure Statement

- I have no relevant financial relationships with the manufacturers of any commercial products and/or provider of commercial services discussed in this CME activity.
- I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

# Benefits of Breastfeeding

- Superior nutritional content for infant
- Immunological protection for infant
- Improved cognitive outcomes for infant
- Protection from premenopausal breast cancer, epithelial ovarian cancer for the mother
- Improved mother – infant bond

## Excess Health Risks Associated with Not Breastfeeding Outcome

Excess Risk\* (%)

### ***Among full-term infants***

Acute ear infection (otitis media)	100
Eczema (atopic dermatitis)	47
Diarrhea and vomiting (gastrointestinal infection)	178
Hospitalization for lower respiratory tract diseases in the first year	257
<b>Asthma, with family history</b>	<b>67</b>
Asthma, no family history	35
<b>Childhood obesity</b>	<b>32</b>
<b>Type 2 diabetes mellitus</b>	<b>64</b>
Acute lymphocytic leukemia	23
Acute myelogenous leukemia	18
<b>Sudden infant death syndrome</b>	<b>56</b>

### ***Among preterm infants***

<b>Necrotizing enterocolitis</b>	<b>138</b>
----------------------------------	------------

### ***Among mothers***

Breast cancer	4
Ovarian cancer	27

*"Surgeon General's Call to Action 2011"*

- Breastfeeding is a species specific continual immunologic update between the environment and the infant and is the single intervention that confers a lifetime of health benefits in infancy and beyond.



# Benefits of Breastfeeding for the mother

- For mothers employed outside the home – less loss days from work due to infant's illness
- Mothers who experienced gestational diabetes during pregnancy were less likely to subsequently develop insulin dependent diabetes

# Moms who don't breastfeed face increased risk of Diabetes

- Liu B et al. Dia Care 2010;33:1239-1241

In healthy weight women (BMI<25)

Parous, no breastfeeding

Parous, breastfed up to 3 months/child

Parous, breastfed >3 months/child

Nulliparous

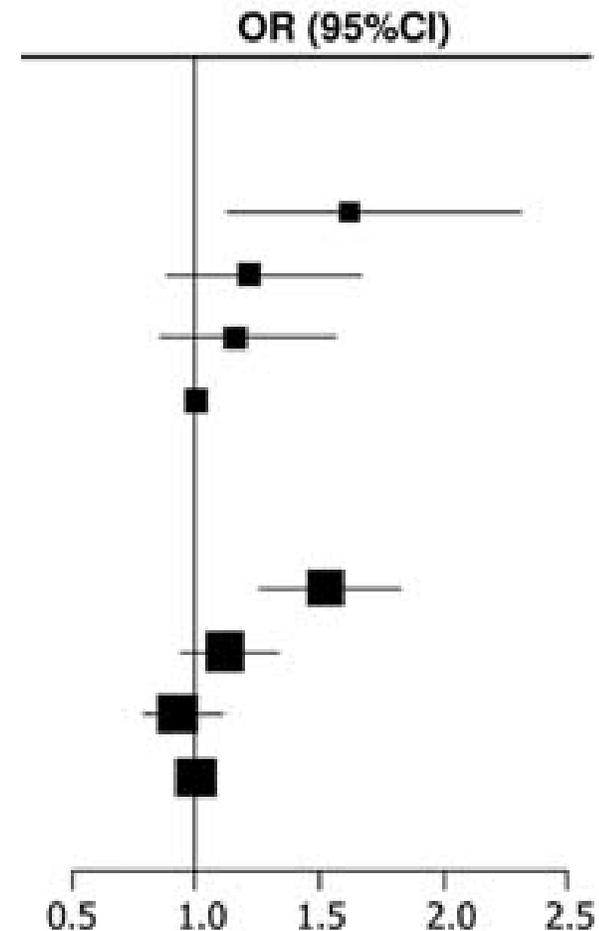
In overweight women (BMI≥25)

Parous, no breastfeeding

Parous, breastfed up to 3 months/child

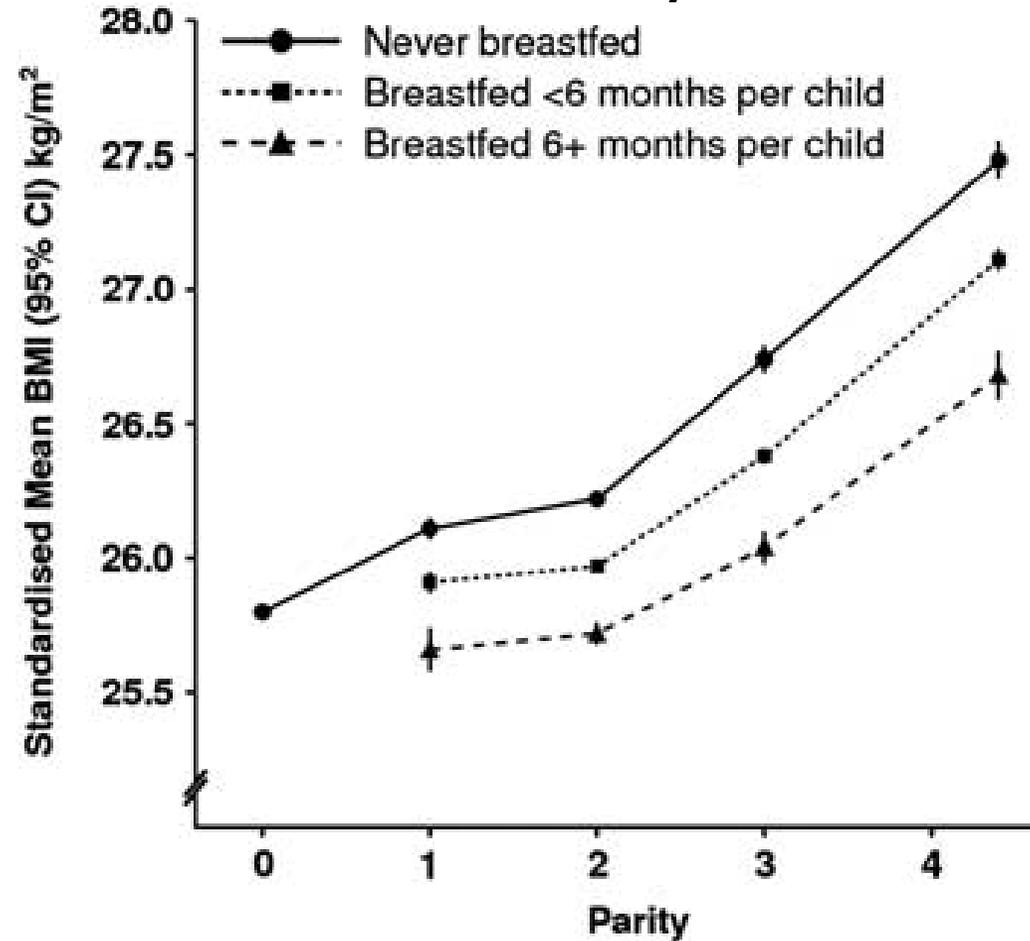
Parous, breastfed >3 months/child

Nulliparous



# Less Lactation = More Obesity

Bobrow KL Intl J of Obesity 2012



# Lactation and CVD

Schwarz EB, et al Ob Gyn 2009

- Mothers who never lactated were more likely than mothers who breastfed for 1+ year to get CVD prior to WHI enrollment
- • OR=1.10, 95% CI= 1.02-1.18
- Independent of sociodemographic, lifestyle,
- family history variables, and BMI
- In conclusion, never or curtailed lactation was associated with an increased risk of incident maternal hypertension, compared with the recommended  $\geq 6$  months of exclusive or  $\geq 12$  months of total lactation per child, in a large cohort of parous women

# Incident CVD by Parity

Stuebe AM et al AJOG. 2009



- With 1 birth

- 7-12 months lactation decreased CVD  
HR=0.72, 95% CI 0.53-0.97

- With 2 births

- 24+ months of lactation decreased  
HR=0.58, 95% CI 0.35-0.95

CVD

# Subclinical CVD

Schwarz EB, Ob Gyn 2010



- • Aortic Calcification
  - after adjustment for BMI and traditional risk factors including:
    - Systolic Blood Pressure
    - HDL, triglycerides, total cholesterol
    - C-reactive protein,
    - glucose, and insulin
- – aOR=5.26, 95% CI 1.47-20.00

# Subclinical CVD

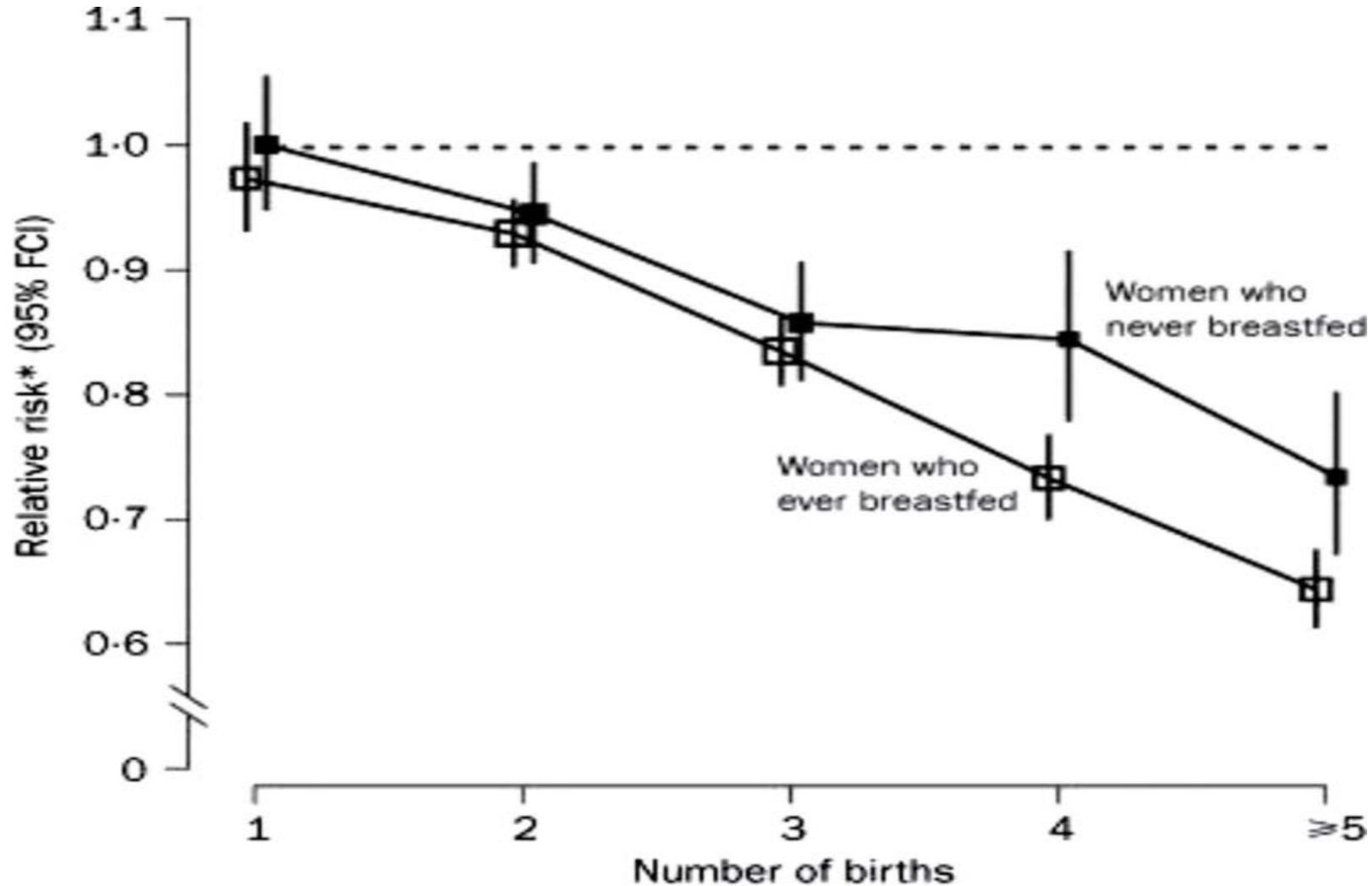
## Schwarz EB, Ob Gyn 2010



- Mothers who never breastfed were more likely than those who breastfed after every birth to have:
  - Aortic calcification  
aOR\*=3.85 (1.47-10.00)
  - Coronary artery calcification  
aOR\*=2.78 (1.05-7.14)
- \*Adjusted for SES, Lifestyle, and Family Hx variables

# Relative risk of breast cancer in parous women

Postpartum Remodeling, Lactation, and Breast Cancer Risk: Summary of a National Cancer Institute



## Breastfeeding and the risk of breast cancer in BRCA1 and BRCA2 mutation carriers

Kotsopoulos J1, Lubinski J, Salmena L, Lynch HT, Kim-Sing C, Foulkes WD, Ghadirian P, Neuhausen SL, Demsky R, Tung N, Ainsworth P, Senter L, Eisen A, Eng C, Singer C, Ginsburg O, Blum J, Huzarski T, Poll A, Sun P, Narod SA; Hereditary Breast Cancer Clinical Study Group.

A case-control study of 1,665 pairs of women with a deleterious mutation in either BRCA1 (n = 1,243 pairs) or BRCA2 (n = 422 pairs).

Breast cancer cases and unaffected controls were matched on year of birth, mutation status, country of residence and parity. Information about reproductive factors, including breastfeeding for each live birth, was collected from a routinely administered questionnaire.

Conditional logistic regression was used to estimate the association between ever having breastfed, as well as total duration of breastfeeding, and the risk of breast cancer.

- Breast Cancer Res. 2012 Mar 9;14(2):R42.

## Breastfeeding and the risk of breast cancer in BRCA1 and BRCA2 mutation carriers.

Kotsopoulos J1, Lubinski J, Salmena L, Lynch HT, Kim-Sing C, Foulkes WD, Gadirian P, Neuhausen SL, Demsky R, Tung N, Ainsworth P, Senter L, Eisen A, Eng C, Singer C, Ginsburg O, Blum J, Huzarski T, Poll A, Sun P, Narod SA; Hereditary Breast Cancer Clinical Study Group.

- Breast Cancer Res. 2012 Mar 9;14(2):R42.
- The research conducted by the Women's Research Institute in Ontario, Canada, calculated that just five women with the BRCA 1 gene needed to breastfeed for a year to prevent one developing cancer. **It was calculated that breastfeeding for one year reduced the risk of cancer by 32 per cent and for two or more years cut it by almost half.**
- The researchers said **each year of breastfeeding reduced the risk of breast cancer by 19 per cent.**
- However **breastfeeding had no effect on the cancer risk for women carrying the BRCA2 gene,** suggesting the way the two genes cause cancer are different.
- **Amongst the general population of healthy women, breastfeeding for a year reduces the risk of breast cancer by 4.3 per cent,** the authors said.

- **METHOD:**

- Systematic review in the following databases: PubMed, SciELO, Cochrane Plus, Medline, Cuiden and Embase. The search was limited to English and Spanish languages, between 2005 and 2015 and human studies.
- **RESULTS:** All studies are observational by the characteristics of the studied pathology. Noted a decreased risk of breast cancer in women who had ever breastfed compared to those who had not. This reduced risk is most evident in postmenopausal women but also happens in premenopausal. It has also been observed that protection is increased with increasing lactation duration
- **The protective effect of breastfeeding happens by differentiation of breast cells, by reduction of the number of ovulatory cycles and by estrogen and carcinogens excretion through human milk.**
- **CONCLUSTONS:** Breastfeeding is associated with a decreased risk of breast cancer, and health teams must therefore educate mothers about its beneficial effects to themselves and their children.

# Suboptimal breastfeeding may increase U.S. maternal morbidity and health care costs.

- **METHODS:** compared the outcomes expected if 90% of mothers were able to breastfeed for at least 1 year after each birth with outcomes under the current 1-year breastfeeding rate of 23%. We modeled cases of breast cancer, premenopausal ovarian cancer, hypertension, type 2 diabetes mellitus, and myocardial infarction considering direct costs, indirect costs, and cost of premature death (before age 70 years) expressed in 2011 dollars.
- **RESULTS:** If observed associations between breastfeeding duration and maternal health are causal:
- **we estimate that current breastfeeding rates result in 4,981 excess cases of breast cancer, 53,847 cases of hypertension, and 13,946 cases of myocardial infarction compared with a cohort of 1.88 million U.S. women who optimally breastfed.**
- **suboptimal breastfeeding incurs a total of \$17.4 billion in cost to society** resulting from premature death (95% confidence interval [CI] \$4.38-24.68 billion), \$733.7 million in direct costs (95% CI \$612.9-859.7 million), and \$126.1 million indirect morbidity costs (95% CI \$99.00-153.22 million). We found a non-significant difference in number of deaths before age 70 years under current breastfeeding rates (4,396 additional premature deaths, 95% CI -810-7,918).

- We must convey that it is absolutely necessary for Americans to recognize that affordable and attainable health care begins with breastfeeding.

