WELL-CHILD VISITS: A FAMILY OBESITY PREVENTION OPPORTUNITY

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#### DISCLOSURE TIME

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  - NICHD: 1 R21 HD050944-01
  - The Research Institute at Nationwide Children's Hospital
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#### THE PROBLEM

- More kids are obese
- · It isn't good for them now or later.
- More common for African-American and Hispanic and Pacific Islander children
- Losing weight is really, really hard even for children.

#### PREVENTION IS OUR HOPE

- We don't really know how to do that.
- Handily, it is what pediatricians do.

# BACKING UP A FEW STEPS

- –Mutable causes of obesity?
- –What about lean families?
- Parental effects on childhood obesity

# MUTABLE CAUSES OF OBESITY?

- -Extra calories
- -Extra snacks
- -Eating out
- –Decreased milk, increased pop by 67%
- -28-39% of calories in front of TV

### AND THERE ARE LEAN FAMILIES

- Mother's behaviors predict child behaviors
- Lean families
  - -Eat three meals/day
  - -Don't eat in front of the TV
  - -Eat together

# PARENTAL EFFECTS ON CHILDHOOD OBESITY

- Maternal obesity triples risk of childhood obesity
- Mom's preferences predict children's
- Maternal habits influence children's habits

### SO THE NIH GAVE US SOME MONEY

- Can Changing How Mom Eats Prevent Obesity in Toddlers?
  - Gina French, MD
  - Theresa Skybo, PhD, RN
  - Pat Schwirian, PhD, RN
  - Lisa Murray-Johnson, PhD
  - Ihuoma Eneli, MD
  - Amy Sternstein, MD
  - Beth Hashiguchi, MS
  - Judith A. Groner MD

# OUR INITIAL QUESTIONS

 Can Targeting How Mom Eats Prevent Obesity in Her Toddler?

Can such changes be effectively encouraged by brief messages during routine anticipatory guidance during the first year of life?

### METHOD

- Comparison of three anticipatory guidance styles
  - –Maternal Focused Eating (MFE)
  - Ounce of Prevention (OP, Bright Futures detailed & enhanced)
  - Bright Futures (BF, usual care condition)

### METHOD (cont)

- Randomized at the clinic level
- Intent to treat model

#### Clinical Sites

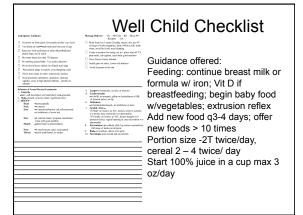
- Pediatric Primary Care Network/Close to Home clinics
  - -78% Medicaid
  - -13% Self pay/other
  - -9% Commercial Insurance
- Low income population: high risk for obesity

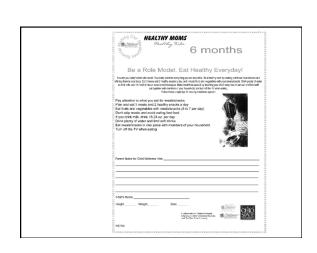
#### THE THREE APPROACHES

- Maternal Focused Eating (MOMS)
  - Three meals two snacks/day
  - Turn off the TV while eating
  - Eat in one place in the home
- Expanded child-centered (OUNCE)
  - Specific discussion of portion sizes
  - Specific instruction on order of food introduction
- Usual practice (BRIGHT)
  - Bright Futures

# INTERVENTION IMPLEMENTATION

- Training X 2
- AG delivered at WC visits under one year
- Insertion of messages on well child forms
- Provision of handout materials





#### MOMS

- · 6 month Guidance offered:
- Mom food: Eat 3 meals/2 healthy snacks/ day, eat 5-7 servings of fruits/ vegetables, drink 16-24oz water, drink milk, avoid fast food, meal skipping
- Create a structure for eating: eat in 1 place, turn off TV, plan meals, eat together, teach baby good nutrition

#### OUNCE

- · Guidance offered:
- Feeding: continue breast milk or formula w/ iron; Vit D if breastfeeding; begin baby food w/vegetables; extrusion reflex
- Add new food q3-4 days; offer new foods
   10 times
- Portion size -2T twice/day, cereal 2 4 twice/ day
- Start 100% juice in a cup max 3 oz/day

#### **BRIGHT**

- · Guidance offered:
- · Feeding: breastfeeding
- vitamin D, Fe formula,
- Self- feed, Holding a cup,
- · Offer soft table foods,
- watch for allergies,
- choking, no honey,
- · no bottle in bed with baby

### THE SUBJECTS

- · 300 mother infant dyads
- Here for well child care between 2 weeks and 2 months of age
- · High risk for obesity
- Exclusions
  - <38 weeks gestation
  - Significant health problem for infant
  - Non English speaking
  - Foster care

### OUTCOMES MEASURED AT 6, 12 AND 15-13 MONTHS.

- Heights and weights of children
- Survey of maternal eating and child feeding behaviors
- Measures of whether interventions were carried out

#### DEMOGRAPHICS OUNCE BRIGHT Total Mom's Age Mom's BMI 29.17 28.09 28.24 27.55 Mom's Education 36% 34%‡ 19%\*\* 29% < High School High School Diploma 41% 34%† 41% 24% 33% 33% 30% Some College or more Mom's Marital Status Single 27% 52%\*\* 49%\*\* 43% 24%\* Cohabiting 39% 30% 31% 18%\* 23% Married 31% 19% Widow

#### DEMOGRAPHICS

	MOMS	OUNCE	BRIGHT	Total
Mom's Race				
Black	20%	74%**	61%**	52%
White	66%	21%**	24%**	37%
Other	14%	5%‡	15%	11%
WIC Recipient	91%	96%	93%	93%
Food Stamps	53%	68%*	60%	60%
Private Insurance	11%	7%	18%	12%

Note: All comparisons use Tukey's HSD; \*\*p<.05 compared to MOMS ;  $\ddagger$  p<.05 compared to Bright Futures

\*p<.10 compared to MOMS; † p<.10 compared to Bright Futures

#### BASELINE RISK

- · 62% of the mothers overweight or obese
- 53% family hx of DM or heart dz
- 49% skip breakfast
- · 49% eat while watching tv
- · 80% eat fast food every week
- · 79% drink two or more cans of soda/day

#### 6 MONTH RESULTS

	MOMS	OUNCE	BRIGHT
Child Juice (oz)	3.31	2.63‡	3.84
Cereal in bottle	1.00	1.86*	2.59**
Bottle in bed	1.00	.85	1.26
Microwave bottle	1.00	.79	1.00
Mom breakfasts/week	6.24	5.94	5.17*
Mom meals w/family /day	0.91	.73	0.68**
Main meal in kitchen	1.00	.59	.46*
TV on > 8 hours/day	1.00	1.24	1.23
Note: All models control for mom's marital status, BMI, ed age:  "Po<.05 compared to MOMS; † p<.05 compared to Brigh "p<.10 compared to MOMS:			

#### 12 MONTH DIFFERENCES

	MOMS	OUNCE	BRIGHT
Child juice (oz)	14.95	15.86†	20.90**
Juice from cup (v bottle)	1.00	.60	0.91
Servings fruit/day	1.41	1.27	1.06**
Servings Vegetables/day	1.22	1.05	0.97
Child milk (oz)	24.26	21.65	22.81
Mother breakfast/week	7.61	7.42	7.03
Mom meals with family/ day	1.69	2.01‡	1.50
Main meal in kitchen	1.00	1.66	1.41
TV on 8+ hours per day	1.00	1.71	1.47
Child <2 hrs of TV per day	1.00	1.12†	.44*
No. All and the second control of the DM			

Note: All models control for mom's marital status, BMI, education \*\*p<.05 compared to MOMS; † p<.05 compared to Bright Future \*p<.10 compared to MOMS; † p<.10 compared to Bright Futures

### Limitations

- Single city
- · Intergroup demographic differences

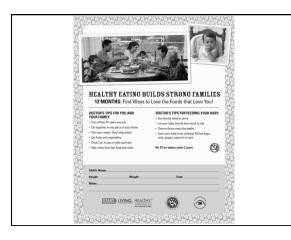
### CONCLUSIONS

- MFE associated with maternal eating and child feeding improvements in this urban sample families at high risk for child obesity.
- This intervention is inexpensive and easily replicable.
- · It may be worth doing.

# IN THE MIDDLE I MOVED HERE

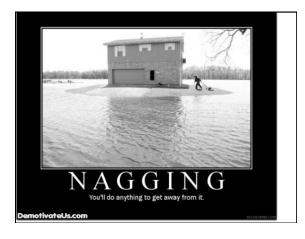
- Dr. Iwaishi had obtained a contract from DOH-HHI for physician training in prevention of obesity in preschoolers
- We attempted to apply what worked in the MOMS program

AND AFTER OVER A YEAR OF WRITING BY COMMITTEE



# SOME SUGGESTIONS ABOUT USING THEM

- · Avoid nagging if you can
- Join and lead
- · Limit your suggestions to a couple



# HELPING PEOPLE CHANGE

- · Speak to their best self
- You can't change what they don't want to change
- Small steps: start by suggesting one thing add as you go

# And if you 're going to nag, go with what worked

- · Kids do what moms do
- Eat three meals a day
- Turn off the TV while you eat
- Avoid soda and fast food

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