

Early Formula Supplementation Among Breastfeeding Latinas:

How do we start to change “las dos”?

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Disclosure

- No conflicts of interest to disclose.

Objectives

- To identify common barriers to exclusive breastfeeding among Latinas
- To highlight differences in breastfeeding practices of Latina subgroups
- To present successful examples of exclusive breastfeeding interventions targeting Latinas

Breastfeeding Recommendations (AAP, 2012)

- Exclusive breastfeeding for the first 6 months
 - No water, formula or solids
 - Allows medicine, vitamin/mineral drops
- Continued breastfeeding, with appropriate complementary foods, until at least 12 months of life
- Continued BF as long as mutually desired by mother and child
- Monitor growth on WHO Growth Curve Standards
- Hospital routines should follow the WHO/UNICEF 10 Steps to Successful Breastfeeding

AAP Policy Statement 2012

Breastfeeding and the Use of Human Milk

“Given the documented short-and long-term medical and neurodevelopmental advantages of breastfeeding, infant nutrition should be considered a public health issue, and not only a lifestyle choice.”

Pediatrics 2012; 129:e827-e841

Breastfeeding Rates in the US

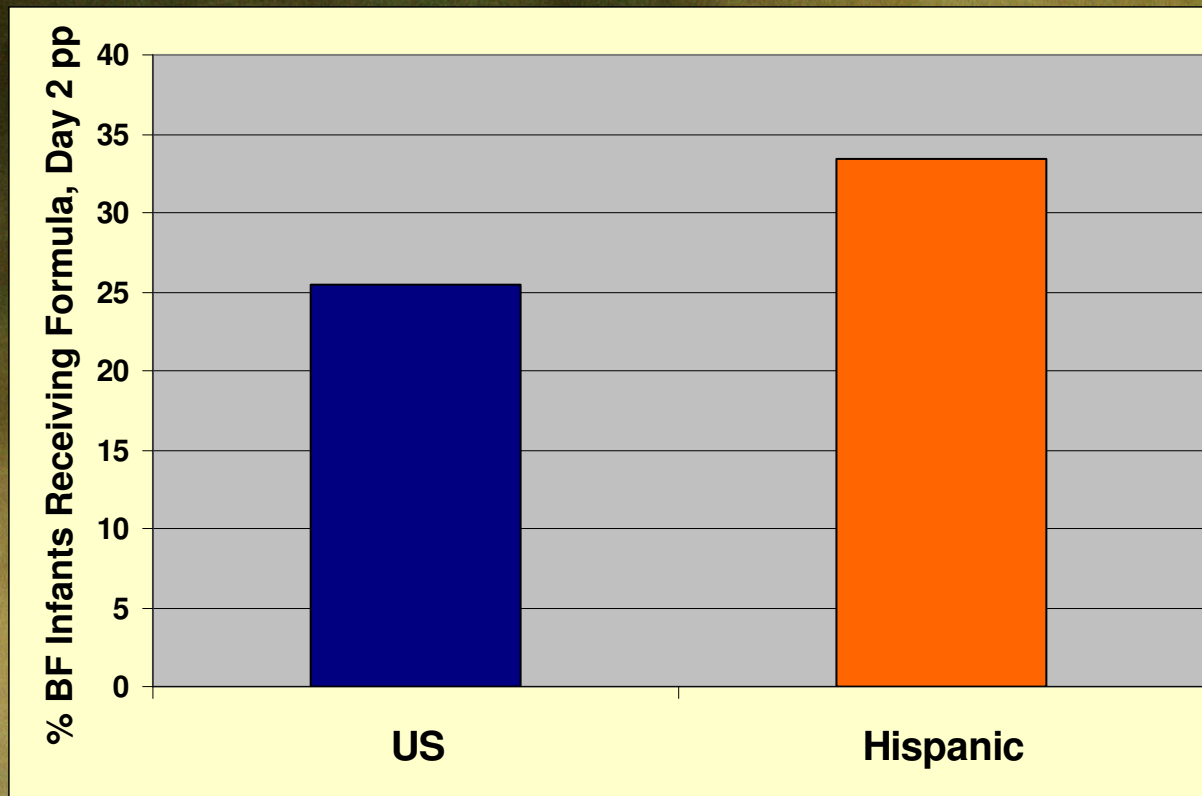
■ 2007 National Immunization Survey Data

	Goal (%)	US National (%)	Hispanics (%)
BF in early pp	82	75	81
BF at 6 mo	61	44	46
BF at 12 mo	34	23	25
EBF at 3 mo	46	34	33
EBF at 6 mo	26	14	13

http://www.cdc.gov/breastfeeding/data/NIS_data/index.htm

<http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=26>

Formula Supplementation of Breast Milk (Day 2 pp, NIS 2007 data)

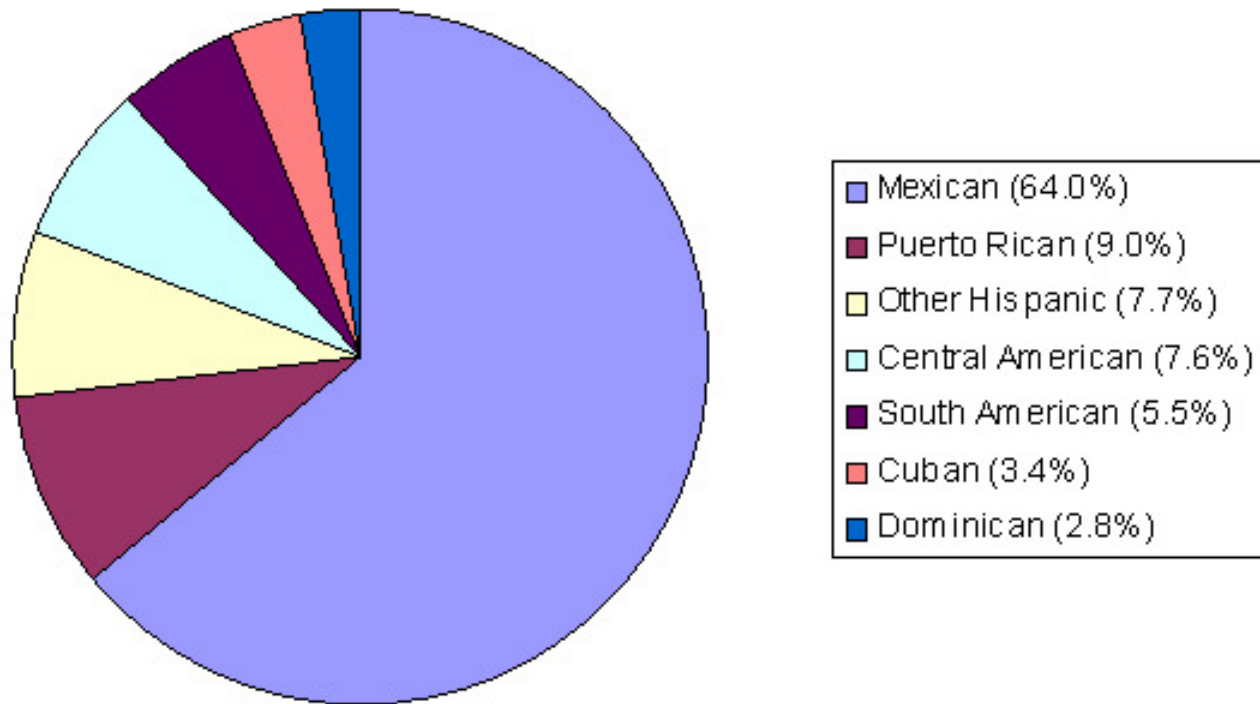


http://www.cdc.gov/breastfeeding/data/NIS_data/2007/socio-demographic_formula.htm

“Las Dos Cosas”

- Literal translation: Both things
- Slang for giving both breast milk and formula
- Not universally understood by Hispanic mothers

US Hispanic Origins: 2006



Source: US Census Bureau, 2006 American Community Survey



Common EBF Barriers Among Latinas

Common EBF Barriers (Mexican Americans and Puerto Ricans)

■ Family/Cultural Beliefs

■ Big is beautiful/healthy (best compliment)

- Supplement if baby is not chubby
- Supplement if baby is crying
- Results in overfeeding/vomiting

■ Respect for grandmother

- Not all grandmothers EBF
- Many Puerto Rican grandmothers did not BF

Bunik et al, Breastfeeding Medicine, 2006; Gill et al, J Perinatal Education, 2004;
Gorman et al, Fam Community Health, 1995; Higgins B, J Transcultural Nursing, 2000

Barriers identified by low-income Mexican Americans (Denver, CO)

- “Los dos” = Best of Both Worlds*
 - Allows health benefits of BF + “vitamins” in formula
 - Mixed messages from hospital/WIC
 - Formula is “thicker”
 - BF as a struggle*
 - Pain
 - Modesty/embarrassment
 - Breast changes
 - Diet restrictions for BF mother
- * Beliefs shared by other Latinas as well

Barriers identified by low-income Mexican Americans (Denver, CO)

- Mom not in control of BF
 - Violation of La Cuarentena
 - Insufficient milk
 - Return to work/school
 - Need to pump in bathroom
 - Baby factors: latch, prefers formula
 - Mom factors: Meds, sickness, nipple type
 - Negative emotions decrease milk supply
 - Bitter milk
 - Teas for colic & constipation

Common Breastfeeding Barriers

(Mexican Americans and Puerto Ricans)

■ Pain

- Sore/cracked nipples
- Minimal follow-up with health care providers for symptoms

■ Embarrassment, especially in public

Bunik et al, Breastfeeding Medicine, 2006

Gill et al, J Perinatal Education, 2004

Gorman et al, Fam Community Health, 1995

Higgins B, J Transcultural Nursing, 2000

Anderson et al, J Hum Lact, 2004

Common Breastfeeding Barriers (Mexican Americans and Puerto Ricans)

■ Perceived inconvenience

- Bottle = convenience

- Bottle allows easy introduction of rice cereal

- To have a big EBF baby would take too much time (Higgins, 2000)

Bunik et al, Breastfeeding Medicine, 2006

Gill et al, J Perinatal Education, 2004

Gorman et al, Fam Community Health, 1995

Higgins B, J Transcultural Nursing, 2000

Common EBF Barriers

(Bartick & Reyes, BF Med, 2011)

Qualitative interviews with Latinas (n=17)

■ Ethnic subgroup

- 65% Dominican
- 18% Puerto Rican
- 6% Mexican
- 6% Ecuadoran
- 6% Other Hispanic

■ Age: ~24 years

■ Education: ~11.9 years

■ Time in US: ~14 years

Milk supply issues

(Bartick & Reyes, BF Med, 2011)

- Insufficient milk supply
 - Common, inevitable
- Formula as “remedy” for insufficient milk supply
- Lack of understanding: concept of breast milk supply and demand
- Lack of confidence

Comfort with Formula Feeding

(Bartick & Reyes, BF Medicine, 2011)

■ Positive comments

- Formula contains everything the baby needs
- Formula keeps baby fuller longer

■ Negative comments

- Issues with formula tolerance (59%)
- Formula assoc. with more GI upset

“Dose-response” misunderstood

(Bartick & Reyes, BF Med, 2011)

Misperceptions

- Important to BF for first few weeks only
- BF benefits obtained in ~ 3 weeks

Other key findings

Bartick & Reyes, BF Med, 2011

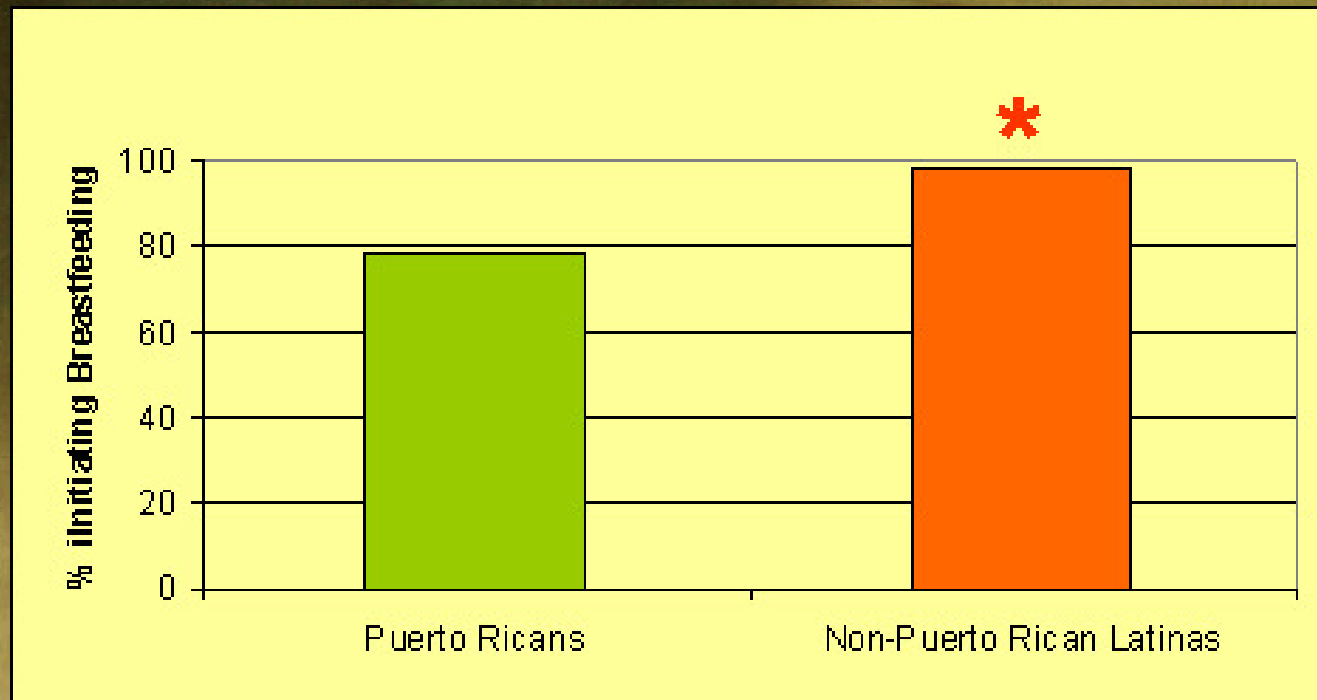
- “Any BF is better than none” vs.
“Any BF is good”.
 - Ensure comprehension of risk based messages
- Minimal knowledge of EBF and BF medical recommendations
- Did not mention preference for “chubby” baby
- Infants “too old” to be satisfied with “just breast milk”

Breastfeeding Practices Vary by Latina Subgroup

And within
Subgroup!

BF Initiation in Hartford, CT

(Among women considering BF prenatally)

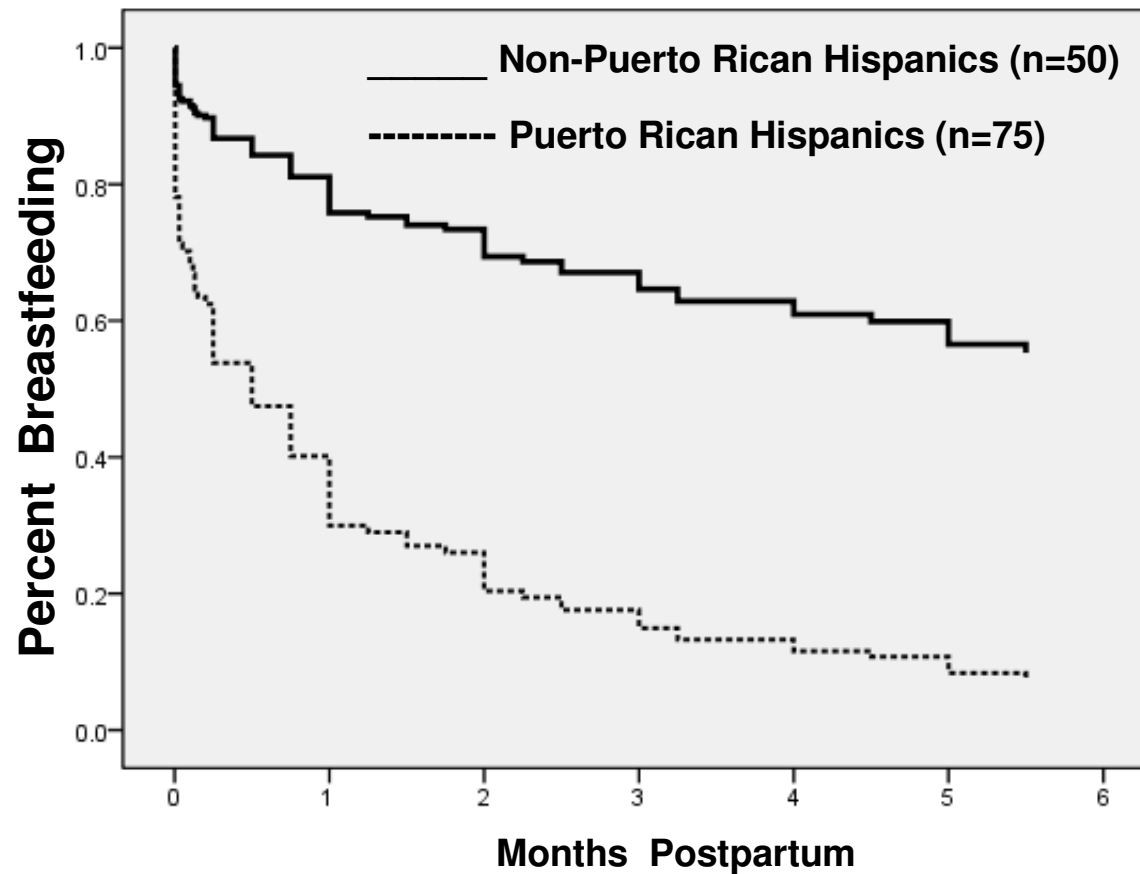


* $p < 0.001$

Chapman DJ, J Hum Lact, 23:70; 2007

Non Puerto Rican Latinas: 22% Columbian, 22% Peruvian, 21% Mexican

BF continuation by Latina Subgroup



Chapman DJ,
Adv Nutr,
2012

ARSMA-II

Acculturation Rating Scale for Mexican Americans-II

(Cuéllar et al, 1995, Hispanic J Behavioral Sciences)

Scale 1

- Mexican Orientation Subscale (MOS) =17 items
- Anglo Orientation Subscale (AOS) =13 items

Sample items

- I enjoy Spanish language TV.
- I enjoy English language TV.
- My thinking is done in the Spanish language.
- My thinking is done in the English language.
- My friends now are of Mexican origin.
- My friends now are of Anglo origin.

Response: 5 point Likert scale

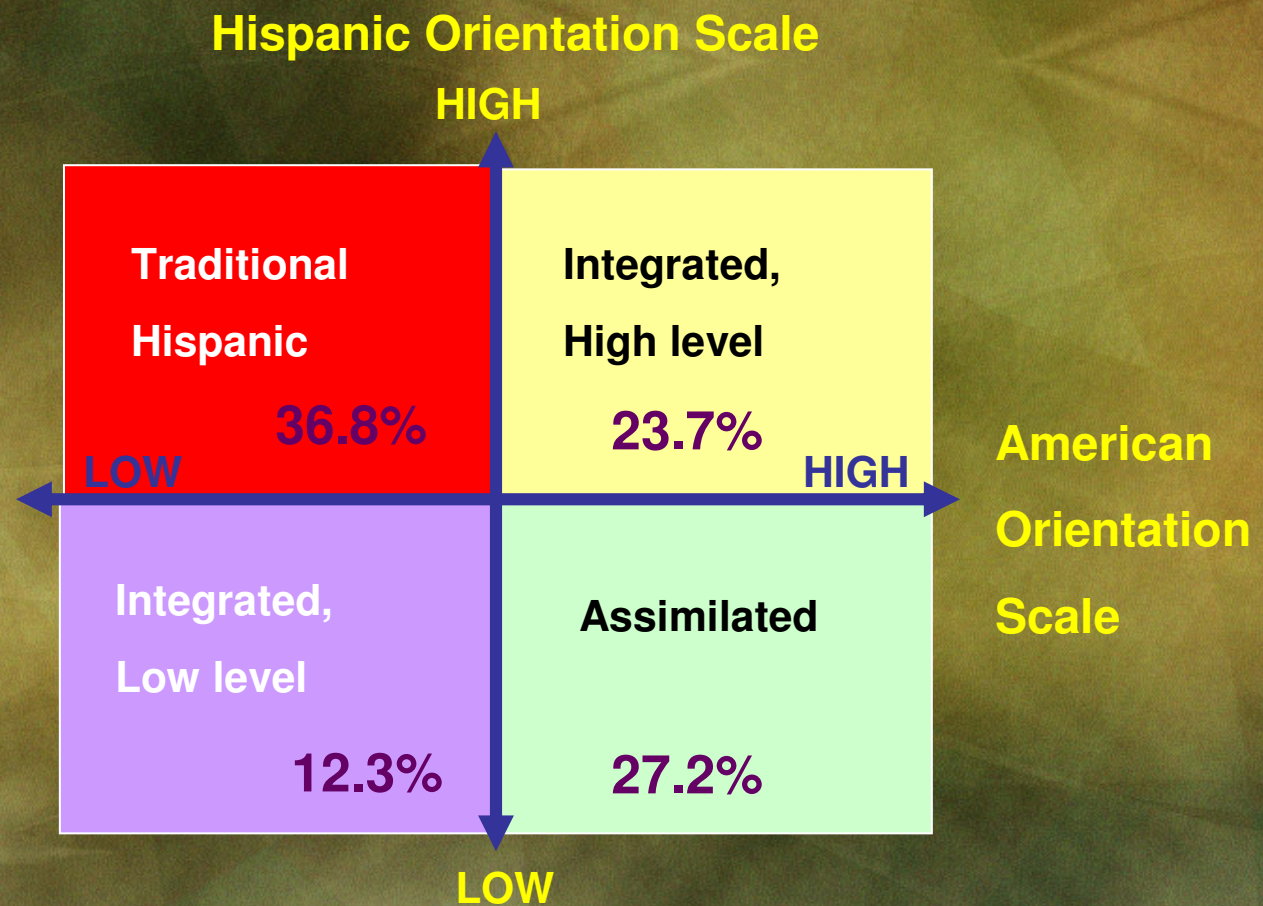
- Not at all
- Very little/not very often
- Moderately
- Much/very often
- Extremely often/Almost always

Modified ARSMA-II (Scale 1)

- Pretested among low-income Latinas
- Changed “Mexican” to “Hispanic” to meet needs of multi-national Latina population
- Changed “AngloAmerican” to “American”
- Changed statements to questions
- Reduced number of items
 - HOS: 10 items
 - AOS: 10 items
- Responses: 4 point Likert scale
 - No/never
 - A little
 - Some
 - A lot

Results: Modified ARSMA-II

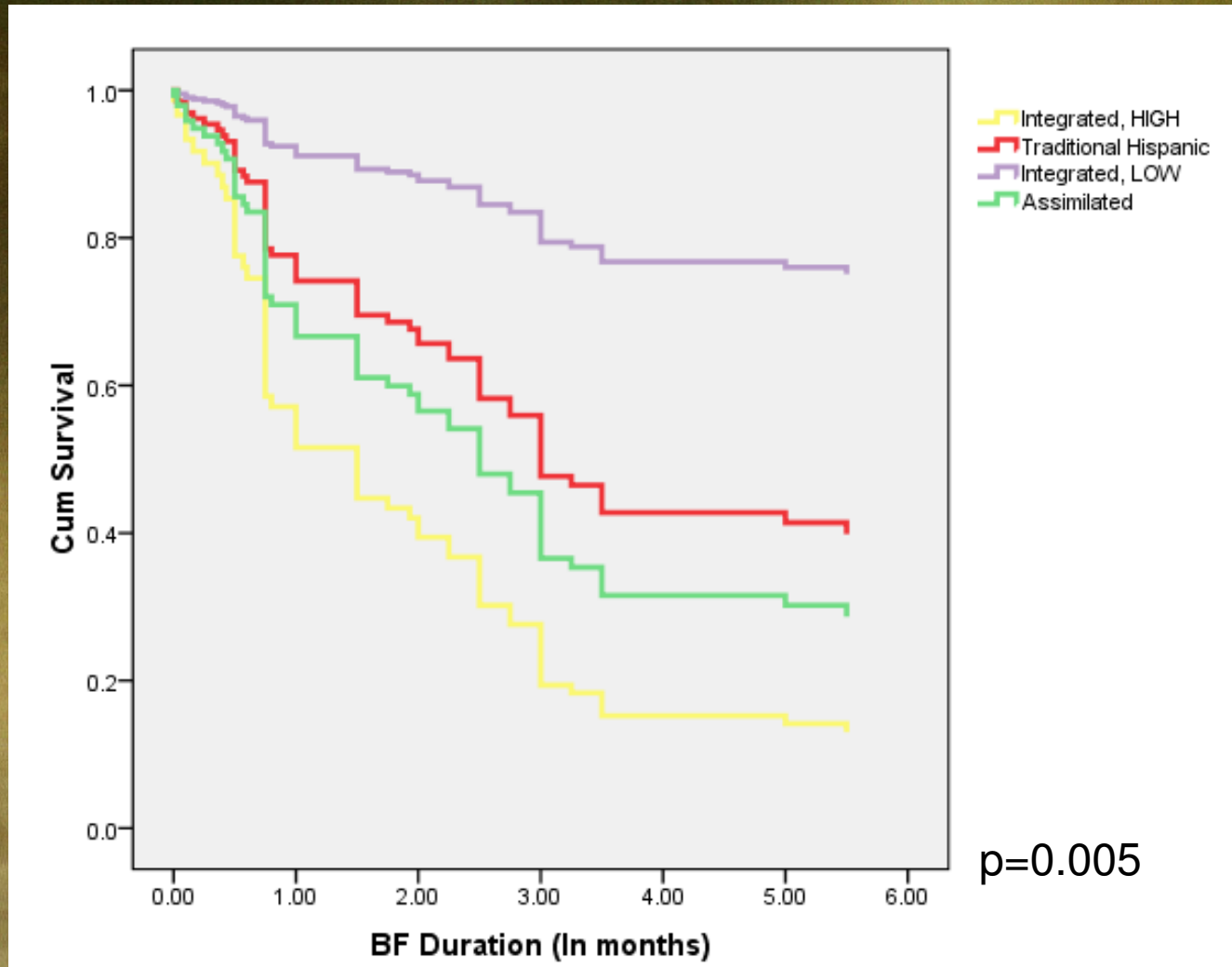
Multidimensional assessment



Breastfeeding Duration

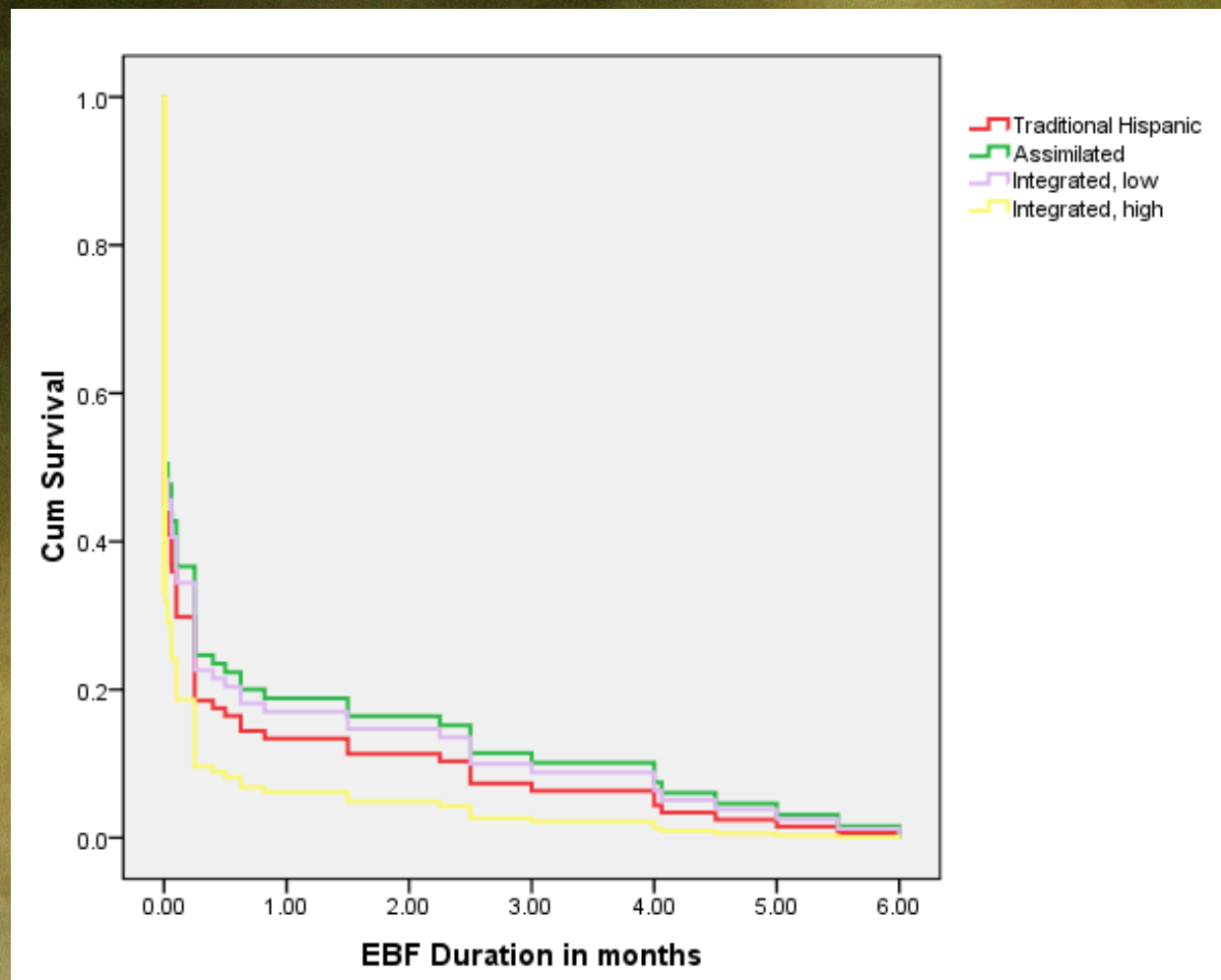
ARSMA-II Multidimensional Acculturation Score


(Cox Survival Analyses)



Chapman et al,
Mat Child
Nutr, 2011

Exclusive Breastfeeding Duration by Multidimensional Acculturation Score (Cox Survival Analyses)





Successful Exclusive Breastfeeding Interventions Targeting Latinas

Identification of EBF Interventions Targeting Latinas

Literature Search

(Breastfeeding, randomized trial, Latina,
Latino, Hispanic, other minority descriptors)

Reviewed Relevant Abstracts

?? successful EBF interventions

Successful EBF Interventions Targeting Latinas

- Breastfeeding Peer Counseling
- Breastfeeding Clinic Appointments

Defining EBF in the Literature

- Strictest definition: EBF since birth using WHO definition
- Modified definitions
 - Based on recalled period
 - 24 hours, past week, past month
 - Allow water
 - Allow limited amounts of water/formula

Breastfeeding Peer Counseling

A randomized trial assessing the efficacy of peer counseling on exclusive breastfeeding in a predominantly Latina low-Income community

AK Anderson, G Damio, S Young, DJ Chapman, R Pérez-Escamilla.
Arch Pediatr Adolesc Med. 2005; 159:836-841

Breastfeeding Peer Counselor

Characteristics

- Women from the Hartford Community
- Breastfed at least 6 months
- Receive 40 hrs classroom training
- 2 months supervised work experience
- Supervised by an IBCLC

“Hands-on” approach, based on BHP model

Inclusion Criteria

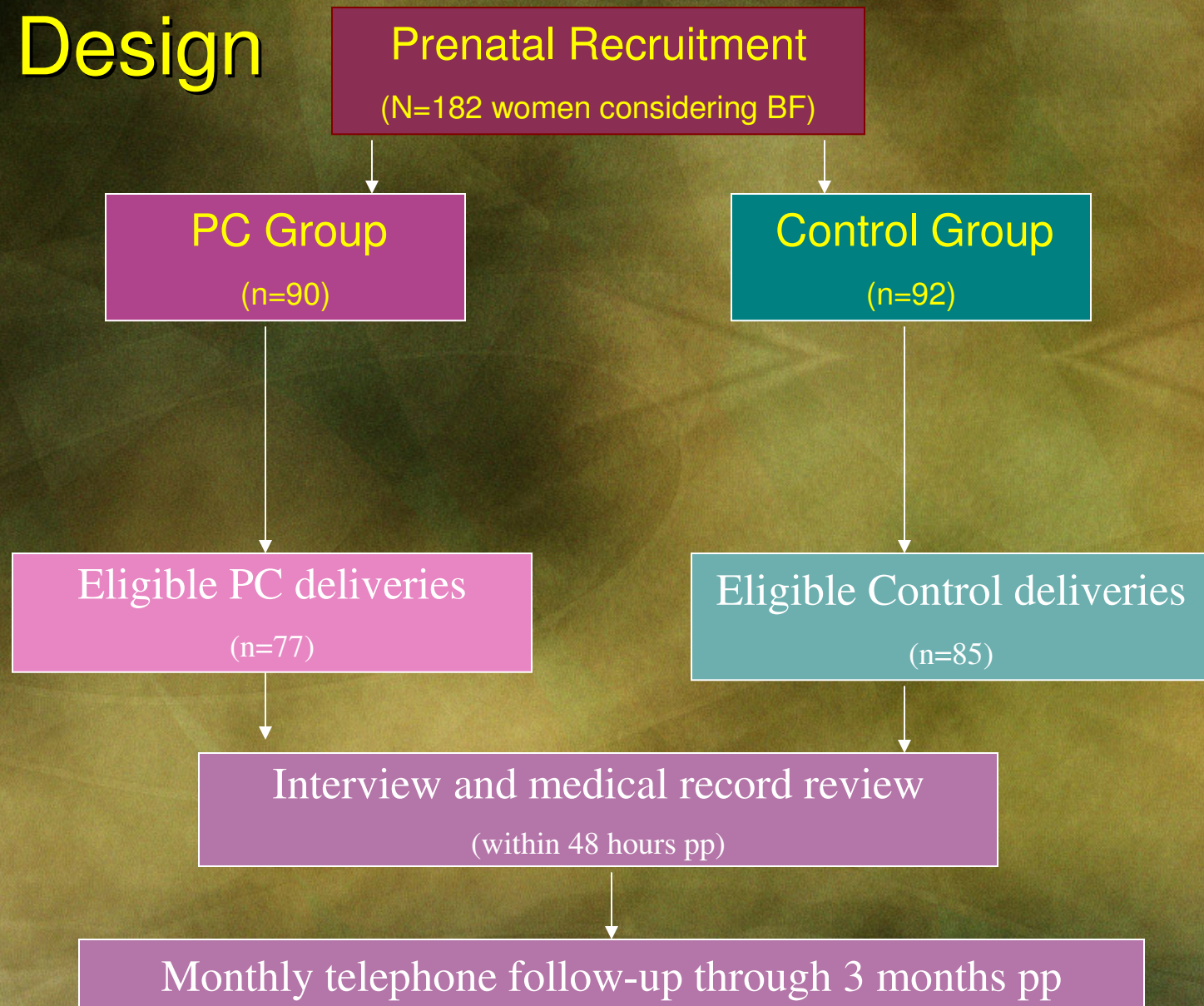
■ Prenatal

- At least 18 years old
- Considering BF this infant
- Residents of Greater Hartford area
- Available for telephone follow-up
- Low income
- No more than 32 weeks gestation
- No contraindications to BF

■ Postpartum

- Healthy, term singleton
- Birth weight at least 2.5 kg
- No admission to NICU

Study Design



(Anderson, AK et al, 2005 Arch Ped Adolesc Med)

Prenatal Peer Counseling Protocol

Routine services plus:

■ Three home visits

- Benefits of EBF
- Avoiding bottles, pacifiers
- Anticipatory guidance
- Written materials
- Infant cues
- Check for inverted nipples
- Discuss breastfeeding myths
- Breastfeeding video discussed
- Latch and positioning

Perinatal Peer Counseling Protocol

Routine services plus:

- At least 1 visit/day
- Hands-on assistance with positioning and latch
- Education on:
 - Infant feeding cues
 - Expected BF frequency
 - Signs of adequate lactation
 - Management of common problems
- Emergency beeper number provided

Postpartum PC Protocol

Routine services plus up to
9 home visits:

- 3 visits in 1st week pp
- 2 visits in 2nd week pp
- 1 visit/week (weeks 3-6 pp)
- Free mini-electric pump loan available
- PC available by pager
 - Unlimited telephone contact

Statistical Analyses

- Chi square analyses
 - Baseline differences between groups
 - Differences in EBF rates at
 - Hospital Discharge
 - 1 month pp
 - 2 months pp
 - 3 months pp
- Statistical significance: $p < 0.05$

Results: Subject Characteristics

	% PC	% Controls
Ethnicity		
Hispanic (%)	81.0	63.9
African American	14.3	20.8
Caucasian	1.6	12.5
Other	3.1	2.8
Maternal age (years)		
<20	9.5	16.7
20-30	68.3	56.7
31+	22.2	16.7
Married (%)	39.7	26.4
Primiparous (%)	55.6	48.6
Unemployed (%)	65.1	61.1
WIC participant (%)	92.1	88.9
> HS education (%)	31.8	31.9

Results: PC Coverage

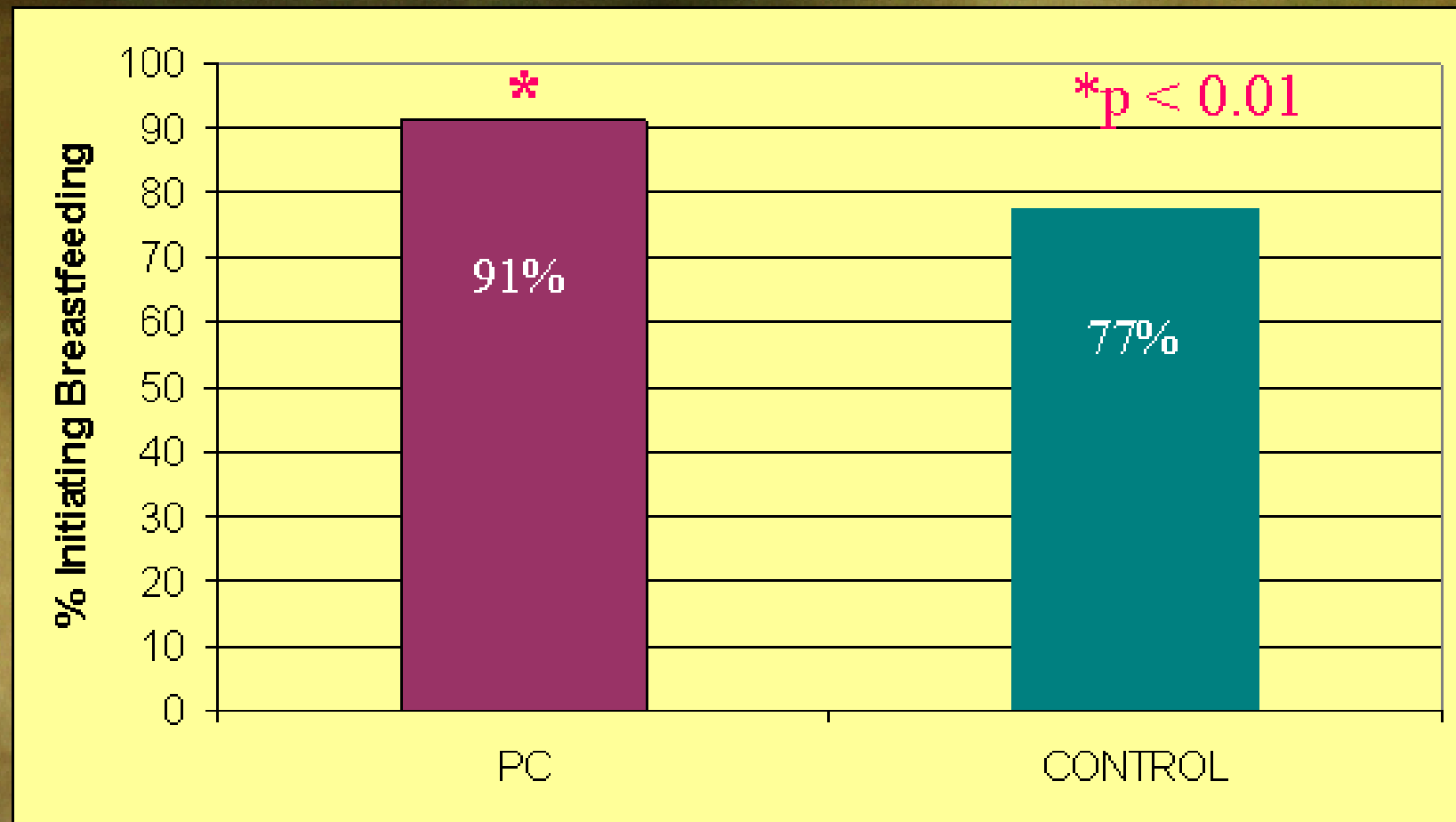
■ PC Coverage

- Prenatal: 89% (2.6 hours)
- Perinatal: 99% (2.2 hours)
- Postpartum (6 weeks): 64%

■ Breastfeeding initiation

- PC: 91%
- Controls: 76%
- RR: 2.48; 95% CI 1.04 – 5.90

Results: Breastfeeding Initiation (N=135)

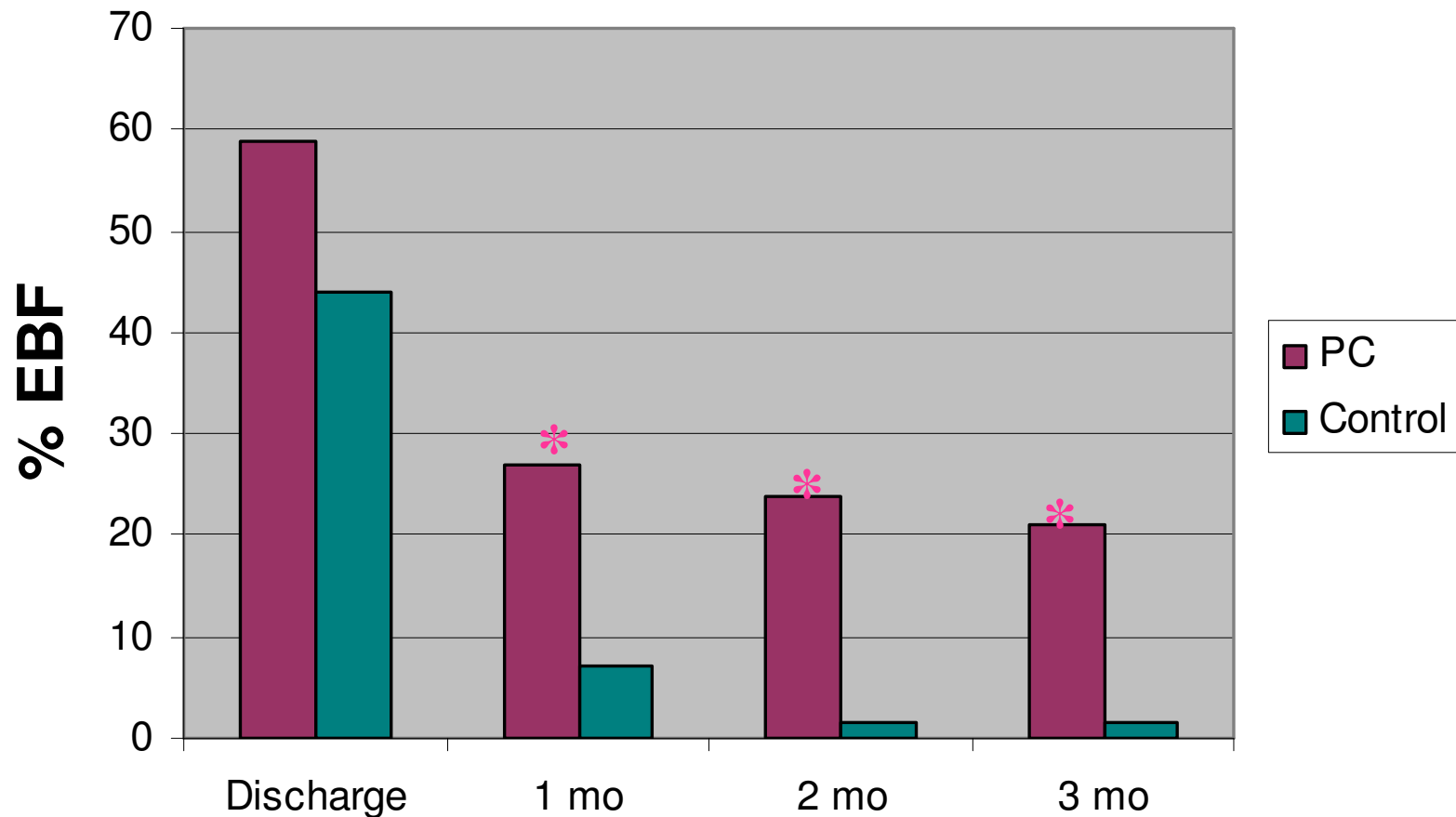


*RR: 2.48; 95% CI 1.04 – 5.90

Anderson et al, Arch Ped Adolesc Med, 2005

Results: Exclusive BF Rates

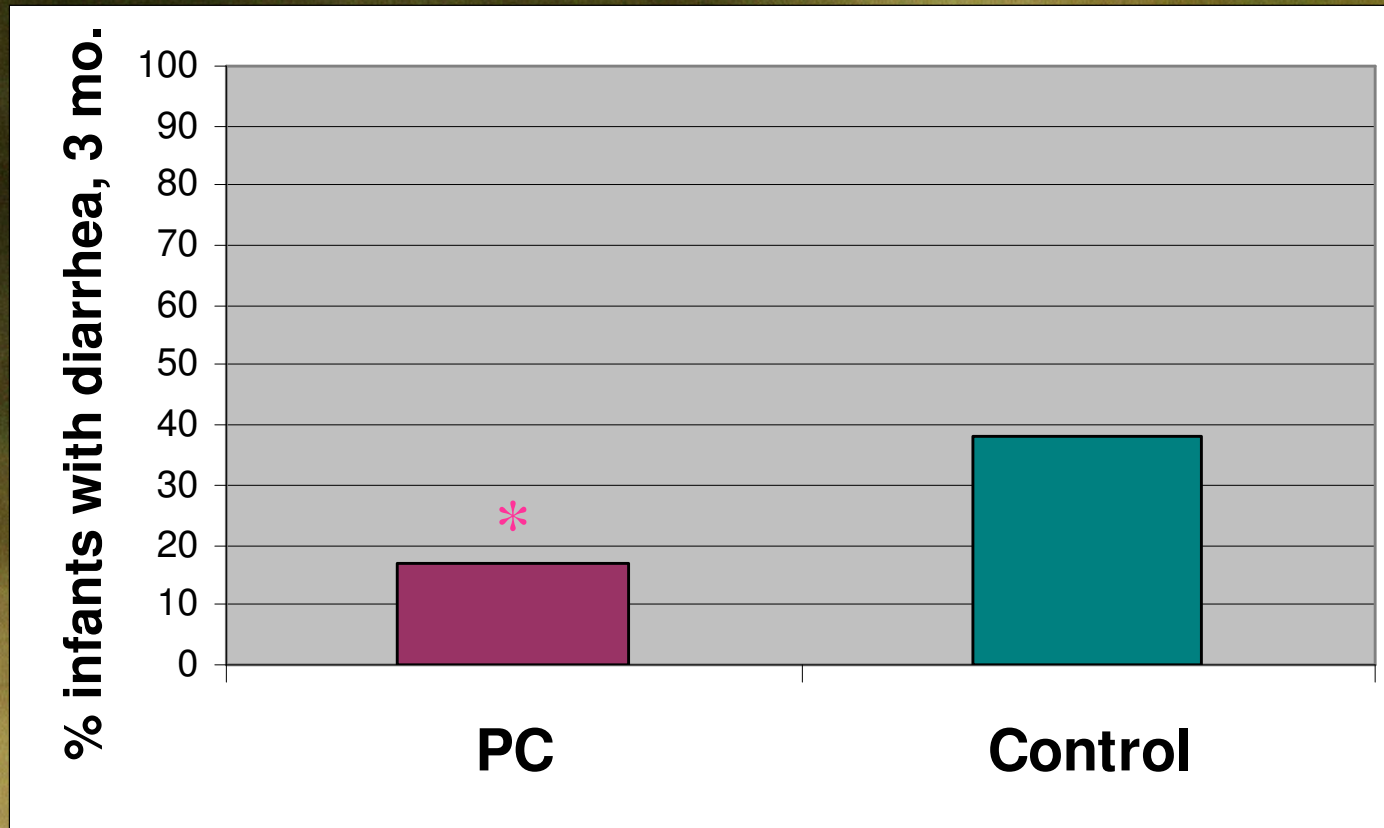
(Anderson AK et al, Arch Ped Adolesc Med, 2005)



*1 mo: RR, 3.89, 95% CI (1.52 – 9.90); 2 mo: 17.24 (2.33 – 125.84);

3 mo: 14.93 (2.00 – 111.84)

Results: Infant Diarrhea (0-3 mo)



*RR: 2.15; 95% CI, 1.16 – 3.97

Anderson AK et al, Arch Ped Adolesc Med, 2005

Breastfeeding-specific Clinic Appointments

Assignment to a hospital-based breastfeeding clinic and exclusive breastfeeding among immigrant Hispanic mothers: A randomized controlled trial

Hopkinson J, Gallagher MK. J Hum Lact. 2009; 25:287-296.

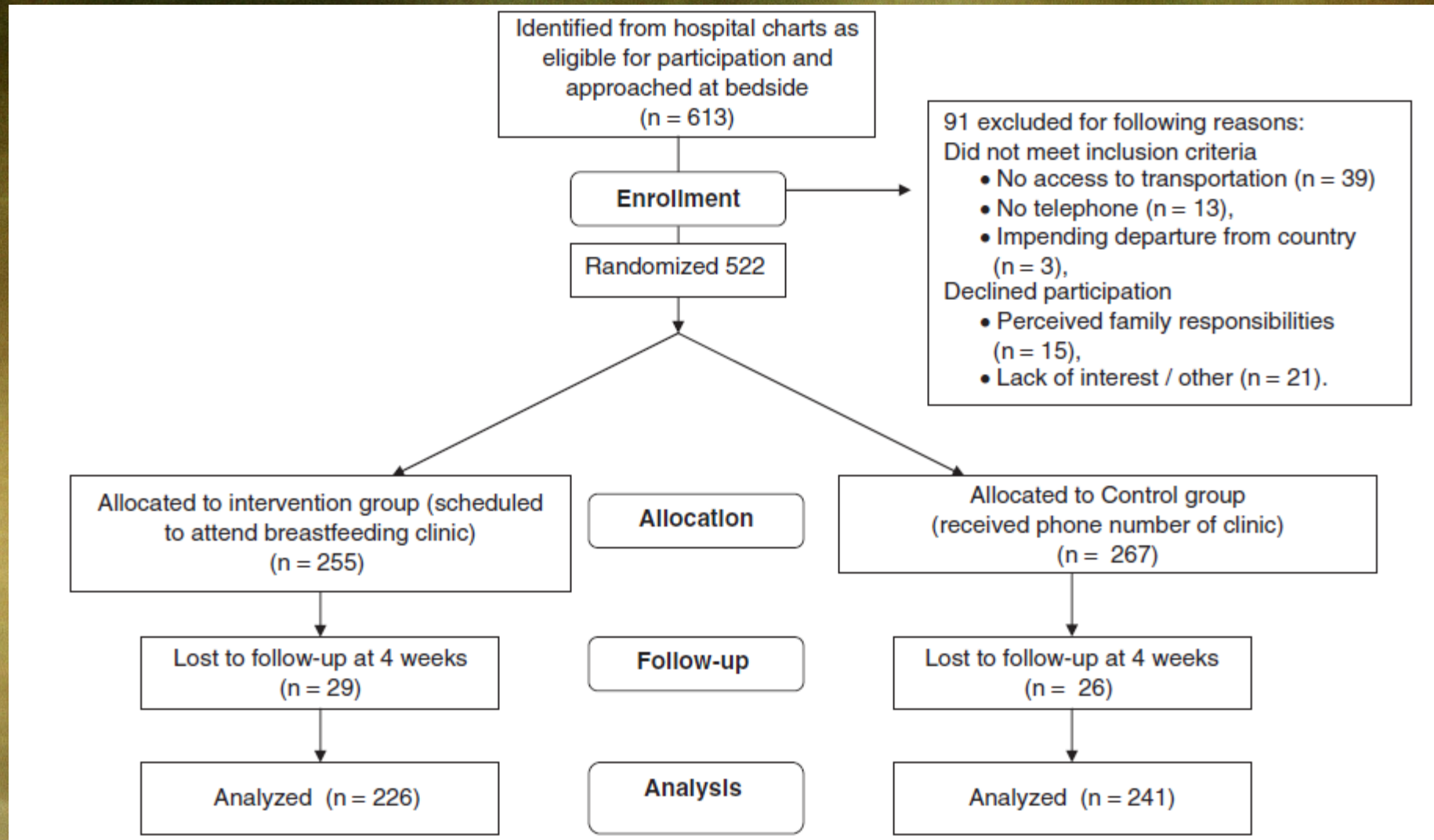
Study Setting

- Houston, TX
- 90% first generation immigrants
- 85% spoke only Spanish
- 97% initiate breastfeeding
 - 98% of initiators choose “las dos cosas”
- Hospital routines
 - 4 hr. mother/infant separation
 - Formula discharge packs
 - Did offer BF assistance

Inclusion Criteria

- Mixed feeding in the hospital
- Access to telephone
- Access to transportation
- Low risk for hyperbilirubinemia
 - At least 37 weeks gestation
 - At least 48 hours old at discharge
 - No jaundice within 24 hours of birth
 - No Rh incompatibility, no RBC defects

Methods: Study Design



Hopkinson J, Gallagher MK. J Hum Lact 2009; 25:287-296.

Methods: Routine care

- Bedside BF assistance before discharge
- Newborn Follow-up Clinic appointment
 - Day 3-5: If high risk for hyperbilirubinemia
 - 2 weeks: First well child visit (low risk infants)
- For Breastfeeding problems
 - Phone # for BF clinic provided to all
 - Phone # for WIC provided to all

Methods: Intervention protocol

- Scheduled appointment for BF clinic
 - Set up for 3-7 days pp
 - Reminder card included in discharge packet
- BF clinic routine
 - Peer counselor appointment (under IBCLC supervision)

Methods: Intervention Protocol

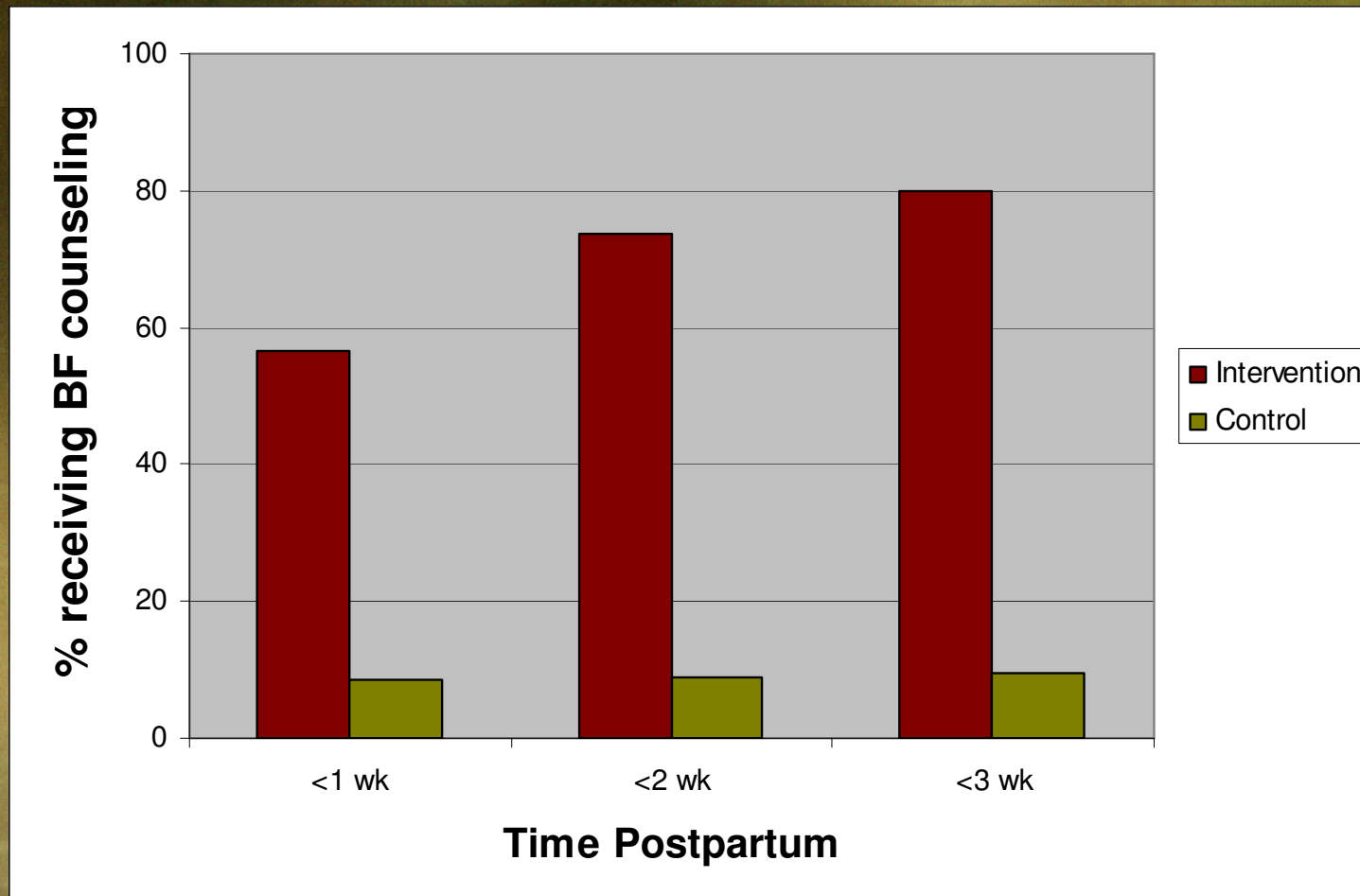
Peer counselor clinic appointment

- BF history
- Breast exam
- Infant oral-motor assessment
- Weight check
- Evaluation of latch and milk transfer
- Discussion of maternal concerns
- Importance of EBF reviewed
 - Plan developed to return to EBF
- Clinic rooms: breast pump, scale, rocking chair

Results: Subject Characteristics

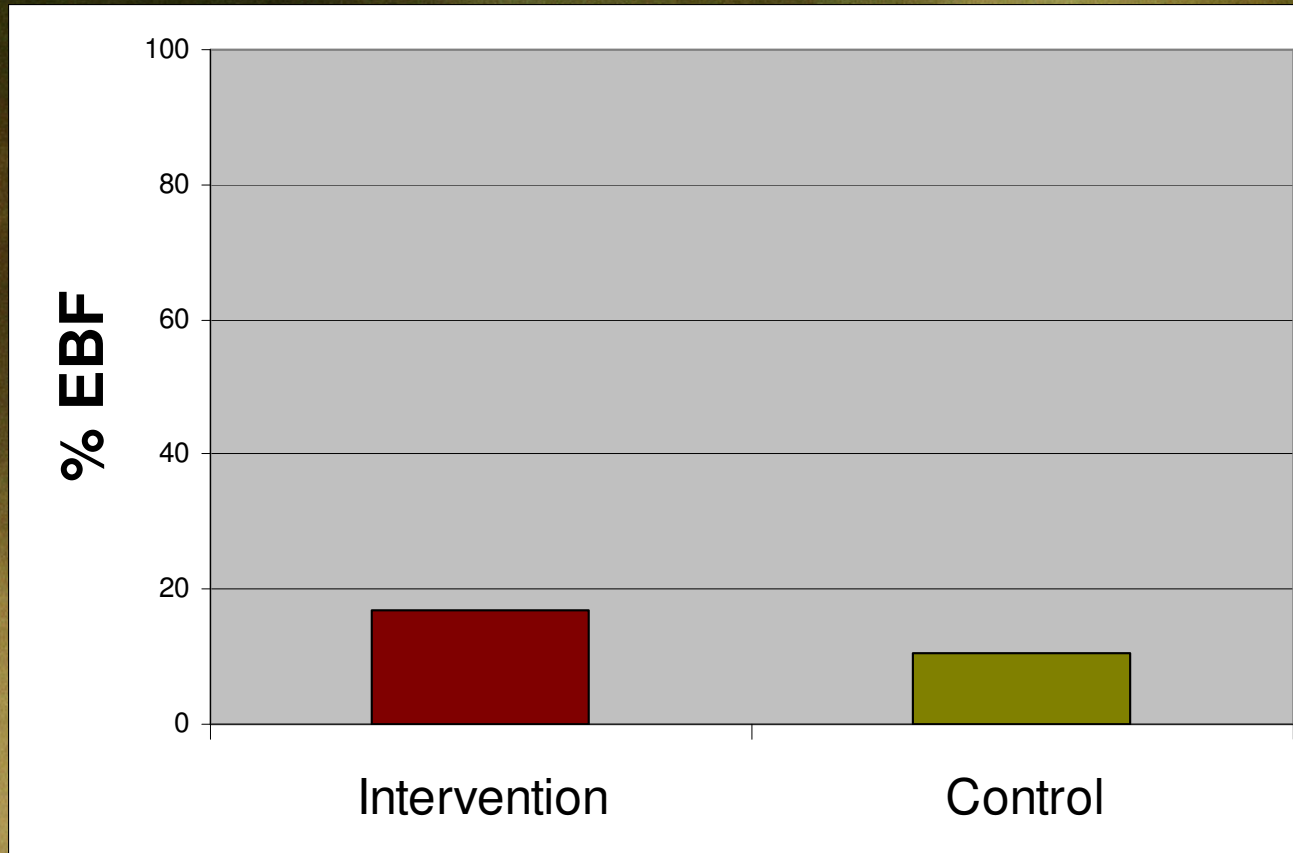
	Intervention (n=255)	Control (n=267)	p
<u>Demographics</u>			
Age (years)	26.8 ± 5.4	27.1 ± 5.4	0.52
Parity (x ± SD)	1.5 ± 1.1	1.5 ± 1.2	0.76
Maternal Height (m)	1.59 ± 0.07	1.58 ± 0.06	0.02
Mother born in Mexico (%)	77.3	74.2	0.52
Wants to EBF (%)	37.7	35.6	0.63
<u>Delivery</u>			
Infant birth weight (g)	3379 ± 436	3428 ± 459	0.18
Infant gestational age (weeks)	39.4 ± 1.3	39.6 ± 1.4	0.08
Unplanned Cesarean (%)	17.3	11.2	0.05
<u>Infant feeding before enrollment</u>			
Age at first feeding (hr)	9.8 ± 11.1	8.9 ± 11.1	0.35
Mean hours between feedings	6.4 ± 9.1	7.3 ± 12.1	0.31
Number of formula bottles	7.7 ± 5.1	8.0 ± 5.7	0.53

Results: Receipt of BF Counseling (Clinic visit or phone call)



* $p < 0.001$ for all time points

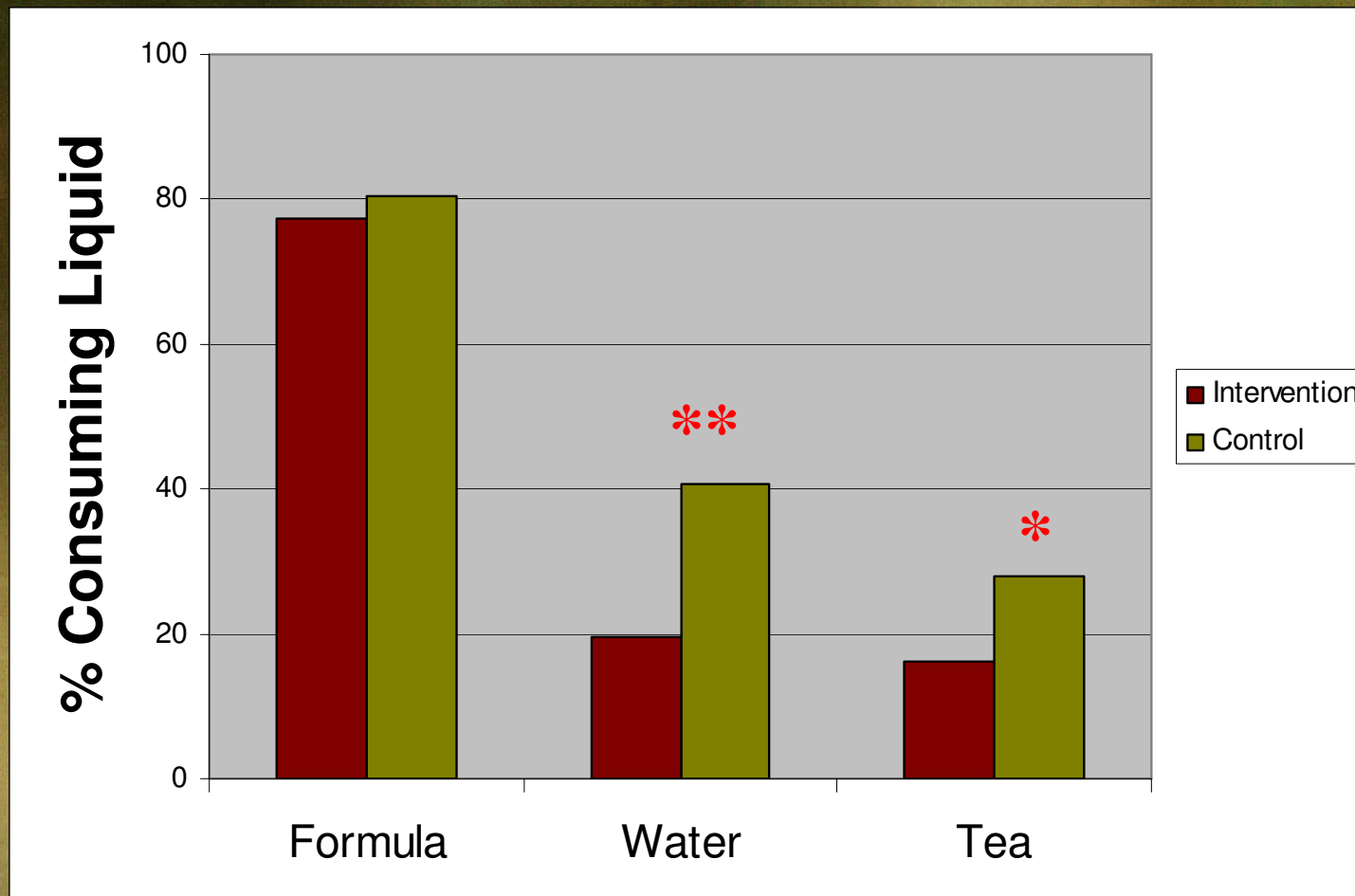
Results: Exclusive Breastfeeding



EBF based on 24 hour recall. Allowed nonBM feedings 1x/week.

$P < 0.05$

Results: Liquids consumed (4 wk)



* $p < 0.01$, ** $p = 0.001$

Results: Formula Intake

	Intervention	Control	p
# Bottles of formula/d	3.9 ± 2.6	4.6 ± 2.8	< 0.05
Ounces of formula per bottle	11.7 ± 8.4	14.0 ± 10.2	< 0.05

Working towards EBF

Recommendation: EBF X 6 m.

Measure progress towards EBF

- At least half of feedings from breast milk

Interventions making progress toward EBF

- Peer counseling for overweight and obese women
- Lactation consultant support

BESTOW: Breastfeeding Education & Support Trial for Overweight and Obese Women

(Chapman et al, Under review)

- **Randomized trial** (Intervention = 76, Control = 78)
- **Intervention (focused on EBF)**
 - 3 prenatal PC visits
 - Daily in-hospital PC visits
 - Up to 11 postpartum PC visits
 - Breast pumps available as needed
 - Breastfeeding sling provided

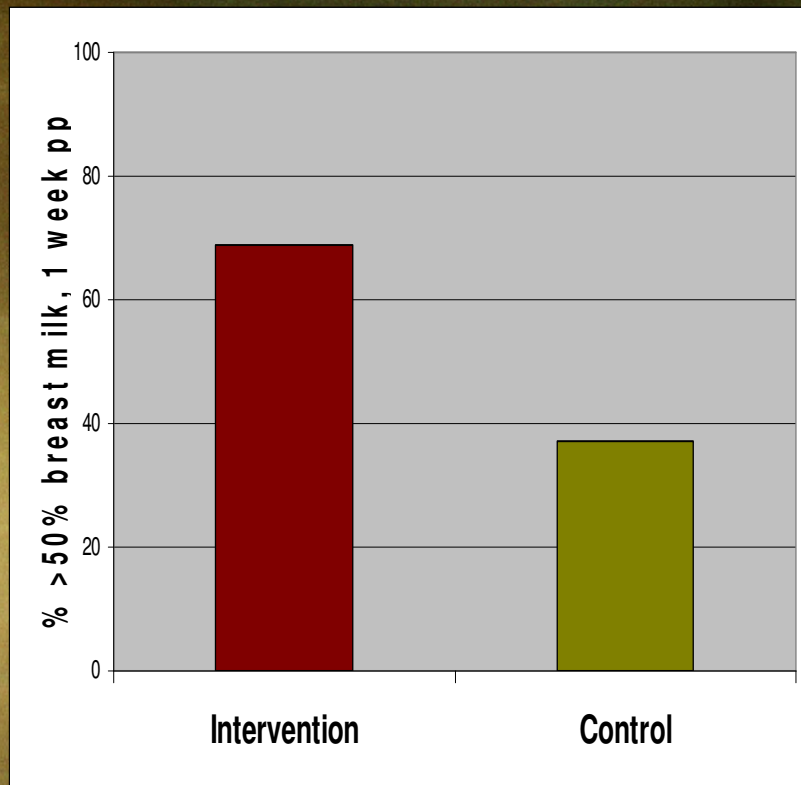
Working Towards EBF : Lactation Consultant Support

LC Support

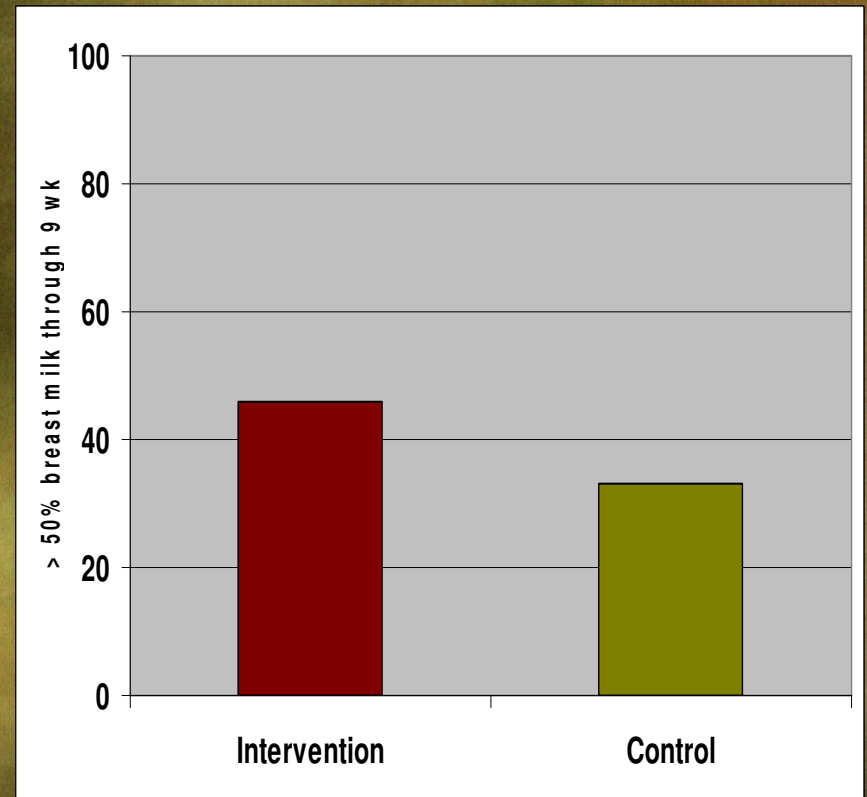
- 2 prenatal LC home visits
- 1 Postpartum LC hospital/home visit
- Telephone support as needed
- Nursing bra provided
- Breast pumps as needed

Bonuck et al, Pediatrics, 2005.

Working Towards EBF : Lactation Consultant Support



1 week pp, $P < 0.001$



Through 9 week pp, $P < 0.001$

Bonuck K et al, Pediatrics, 2005

Other approaches

- Adoption of Baby-Friendly™ Hospital practices
- Social marketing

Begin with Data Collection

- In-hospital EBF rate
 - Trickier than it sounds...
 - Needs careful data collection
- Collect other relevant data
 - Ethnicity
 - Delivery mode
 - Private vs clinic patient
 - NICU admission

Adoption of Baby Friendly Hospital Practices

Minimizing “las dos” is possible!

Example: San Francisco General Hospital

~1250 births/year

99% low income

Ethnicity

60% primarily Spanish speaking

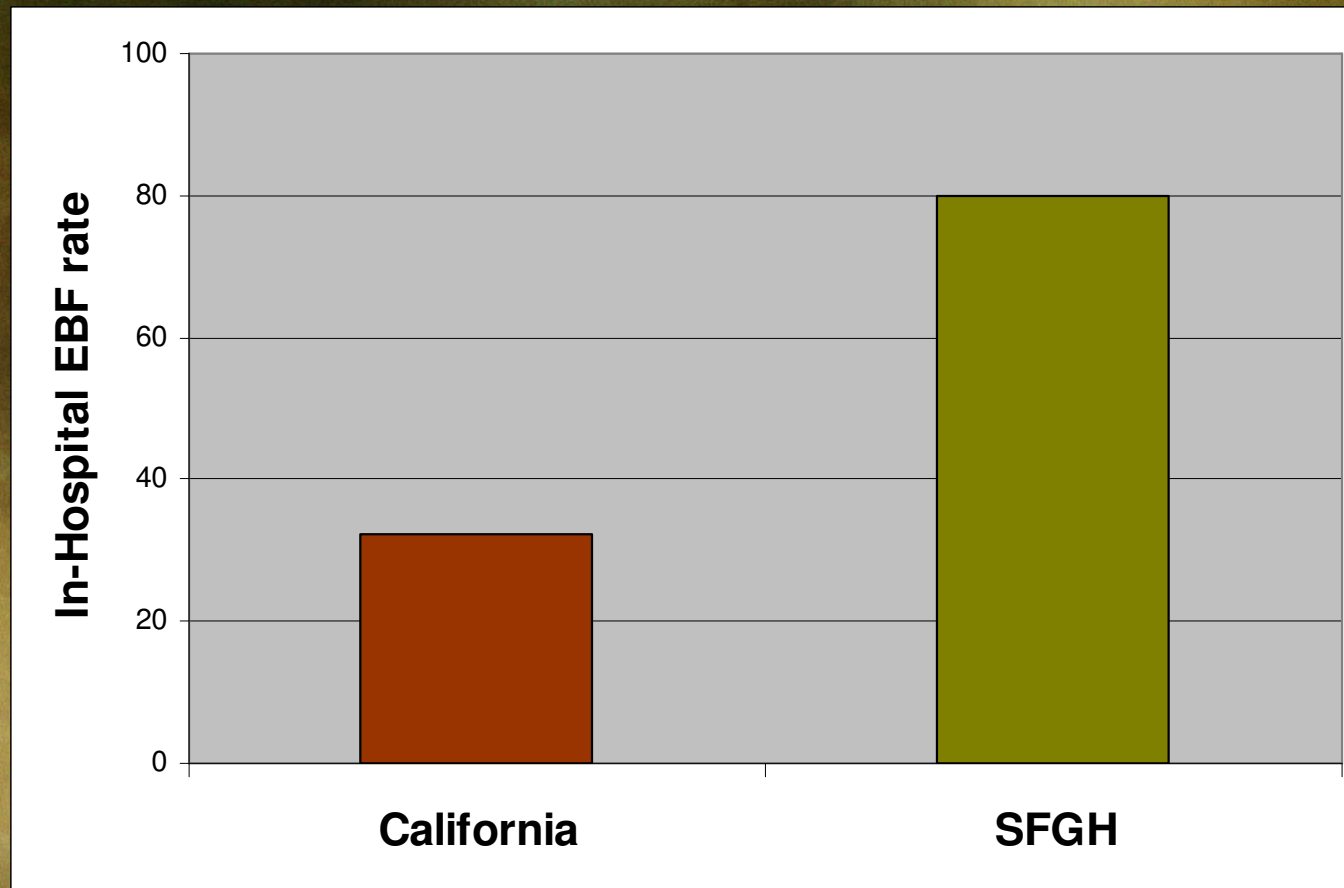
15% Cantonese

25% other

www.californiabreastfeeding.org

San Francisco General Hospital*

(2007 In-hospital EBF rates for Hispanics)



*Baby-Friendly Designation in 2007

Data from California DPH Genetic Disease Screening Program, Newborn Screening Data

Social Marketing

Know your community....

Breastfeed with Pride at all times, in all places

Objective:

Foster a supportive community environment for breastfeeding moms.

Qualitative research: Focus groups, in-depth interviews

Coverage & Consumer Satisfaction

Overall Coverage -- 78%

	% easy	% liked
48% saw outside bus ad	87	88
42% saw TV PSA	91	91
35% listened to radio PSA	96	85
24% saw inside-bus ads	93	84
19% saw newspaper ad	86	86

The background of the slide is an abstract composition of overlapping, semi-transparent geometric shapes, primarily triangles and polygons, in various shades of green and yellow. The shapes are arranged in a way that creates a sense of depth and movement, with some areas appearing darker and others lighter. The overall effect is a textured, layered look that serves as a backdrop for the text.

“The Power of Love & Support” A Breastfeeding Photonovela

MBC Las Dos Posters

- Waterfall image
- “Nature’s secret to keep your milk flowing: Give only the breast.
- Your milk is full of important vitamins and nutrients!

MBC “Las Dos” Poster

**Las dos?
(No.)**

**Mom, you
have the
only two I
need.**

**If you give
me formula,
you won't
make
enough
milk for me!
Give only
the breast**

MBC “Las Dos” Poster

Las dos?

**Mom, you have the
only two I need.**

**Your milk is full of
important vitamins and
nutrients.**

Give only the breast.

Breastfeed: Mom and baby get more food!

<http://www.cdph.ca.gov/programs/wicworks/Documents/NE/WIC-NE-EdMaterials-BreastfeedMomAndBabyGetMoreFood.pdf>

Formula.

Breast milk

**It's not the
same.**

**Breast milk is
better**

Developed by Pennsylvania DPH Public Awareness
Campaign <http://www.cdph.ca.gov/programs/wicworks/Pages/WICBFPosters.aspx>

Areas of future research

- Physician/HCP support for EBF
- Communication of EBF to patients
- Modified PC protocols
- Perceived value of WIC EBF package
- Incentives to hospitals for increased EBF rates
- Impact of Baby-Friendly practices on EBF duration of Latinas

Conclusions: Breastfeeding Barriers

Numerous barriers

- Cultural (Chubby baby, Influence of grandmothers)
- Limited BF knowledge
 - Supply and demand
 - Formula vs breastmilk
 - Dose response effect of breastmilk on infant health
- Common barriers (perceived insufficient milk, pain, BF in public)

Conclusions: Differences among subgroups

- Puerto Ricans (vs Other Latinas)
 - Decreased rates of initiation
 - Shorter BF duration
- Differences visible within subgroups
 - Acculturation matters!
- Don't assume that women won't BF or EBF based on ethnic group or subgroup

Conclusions:

Successful EBF interventions among Latinas

- Peer counseling
 - More intensive than most current models
- Breastfeeding-specific clinic appointments
- Making progress towards EBF
 - Measure >50% feedings from breast milk
 - Baby-Friendly Hospital Initiative
 - Social marketing