Breast for Success: A Community–Academic Collaboration to Increase Breastfeeding Among High-Risk Mothers in Cleveland

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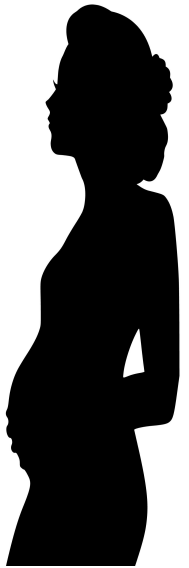

Community Nutrition

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University Hospital Case medical Center IRB

Objective

Why?

- Desired feeding method: exclusive breastfed infants
- Decreased rate of breastfeeding among inner city African American women

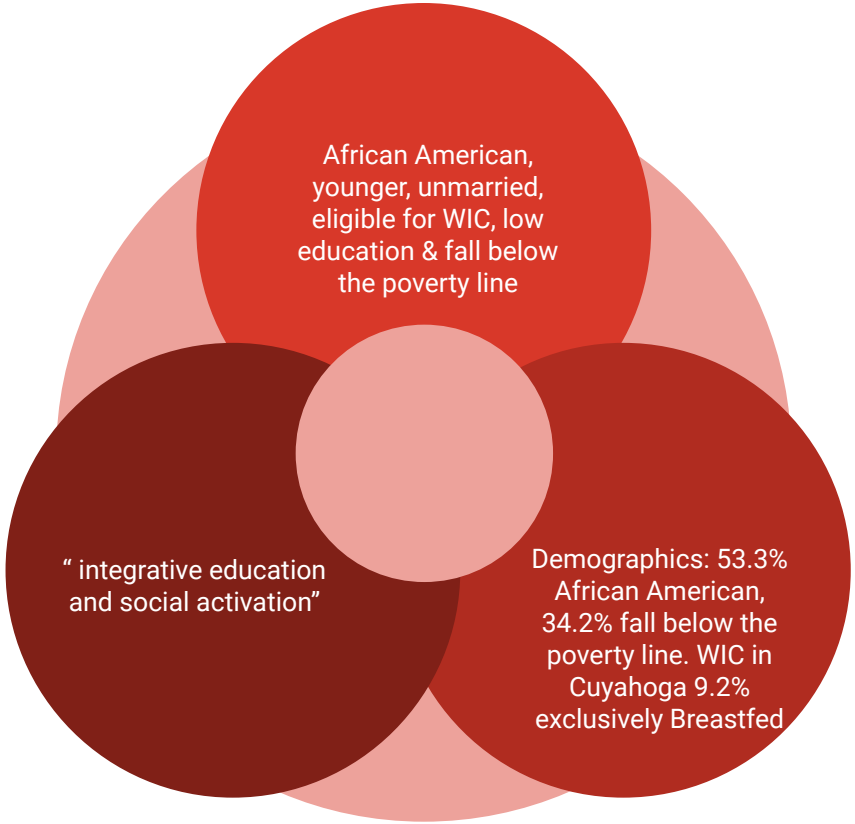
Goal: Community based academic program partnership can be used to intervene, educating women on the benefits of exclusive breastfeeding

Objective: To create a community based intervention to increase breastfeeding rates in inner city African American women. This intervention focused on home visits to high risk expectant mothers, in Cleveland Ohio to identify specific intervention components to increase likelihood of a mother breastfeeding.

Obstacles

Initiatives to reach these women via support groups and lactation consultant did not work
Poverty
- Inadequate transportation
- Survival needs
- " formula culture" lack of role models

Home based approach!



Population

The target population was identified as those expectant mothers served by MomsFirst, with a shared goal of increasing the key health behavior of breastfeeding and a shared theme of engaging and mobilizing personal and family supports.

Enrollment criteria includes:

- Residence in the City of Cleveland
- Women must be expectant and at high risk for having adverse birth outcomes owing to a lack of prenatal care
- Lack of health insurance, social isolation, unmet mental health needs, poverty,
- History of prior stillborn or neonatal death,
- Insufficient support services, or other specific social or obstetrical risk factors
- Teenagers and women in substance abuse treatment and shelters are eligible.

Most participants also have multiple risk factors for choosing not to breastfeed, including African American race, single marital status, lower educational level, and WIC eligibility.

Methods

A community-based participatory research (CBPR) approach and partnered with the Cleveland Department of Public Health MomsFirst Project and Community Endeavors Foundation, Inc., was used to create a culturally competent breastfeeding education program that “piggy backed” onto MomsFirst programming.

Intervention components assessed include those delivered by CHWs (community health worker)(interactive modules and opportunity to select a doula) and by a lactation counselor (pre and postpartum phone calls, postpartum home visits)

Initial Study design: nonrandomized unmasked intervention

1. Could all aspects of the intervention be implemented
2. Could the intervention increase likelihood of exclusive breastfeeding 1 month postpartum
3. No control could (ethics) no historical control group

Issues: not all mothers expected to follow intervention, no reference data : what components were effective, what increased breastfeeding outcomes one month postpartum

Study Design

1. Initial meeting discuss, issues, target population, literature review, needs assessment

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2. Join forces with “momsfirst” comprehensive serves . Twice monthly home visits prenatal to two years, staff underwent at kickoff and 6 months in

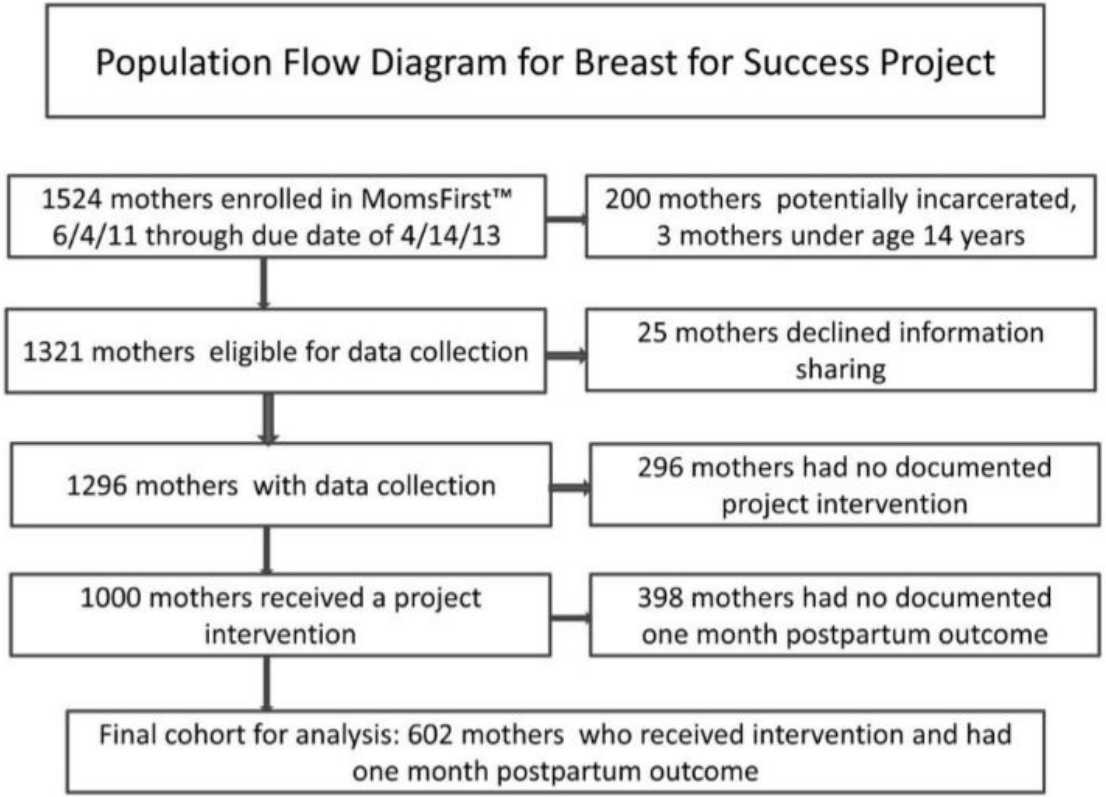
1296 mothers were eligible & agreed to data sharing

All mothers began curriculum at Momsfirst, began biweekly one visits from

CHW were they were given One module a visit to watch
2. All mothers receive attempted phone calls from LC if accepted
3. Modules include barriers of breastfeeding and WIC resources , good latch DVD

Three groups

1. Circuculum only 413 mothers, 8CHW, 3 sites
2. Doula program: 497 mothers, 10CHW , 3 cites
3. Father: 386, 10 CHW,2 cites


Population Flow Diagram for Breast for Success Project
1524 mothers enrolled in MomsFirst™ 6/4/11 through due date of 4/14/13
200 mothers potentially incarcerated, 3 mothers under age 14 years
1321 mothers eligible for data collection
25 mothers declined information sharing
1296 mothers with data collection
296 mothers had no documented project intervention
1000 mothers received a project intervention
398 mothers had no documented one month postpartum outcome
Final cohort for analysis: 602 mothers who received intervention and had one month postpartum outcome

Outcome measures

- Impact of the intervention one month postpartum
- Statistics: nominal variables (Chi square analysis) Continuous variables T-tests, Bivariate analysis looking at three groups: any breastfeeding (formula/ breast), exclusive vs. not exclusive

Table 1. Demographics and Intervention Descriptors for All Eligible Mothers: Comparison Between Who Did and Did Not Receive Intervention

Demographic Descriptor	Intervention Cohort (n = 1,000)	No Intervention (n = 296)	p Value
Mean age, years, at entry (*SD*)	22.2 (4.8)	22.5 (5.4)	0.34
African American race, *n* (%)	843 (84.3)	219 (80.0)	<0.0001
Marital status, now married, *n* (%)	72 (7.4)	33 (11.8)	0.02
Educational level, *n* (%)	(n = 984)	(n = 399)	0.06
Less than high school	516 (52.4)	170 (58.6)	
Primiparous, *n* (%)	649 (64.9)	120 (41.4)	0.16
Has a partner, *n* (%)	193 (65.2)	179 (60.5)	0.46
Prenatal Feeding intent, *n* (%)*	(n = 999)	(n = 294)	0.42 for any BF vs formula; 0.56 for exclusive BF vs formula
Any breastfeeding (BF)*	651 (65.2)	184 (62.6)	
Exclusive breastfeeding	279 (27.9)	77 (26.2)	
Formula only	348 (34.8)	110 (37.4)	
Days from enrollment to delivery (if available), median (IQR)	(n = 813) 96 (52–153)	76 (22–130)	0.002

Outcomes

Table 3. Comparison of Mothers With "Any Breastfeeding"* Versus Those Who Fed Only Formula at 1 Month Postpartum

	Bivariate (Unadjusted)			Multivariate (Adjusted) §		
	Any Breastfeeding* ($n = 295$)	Formula Only ($n = 307$)	*p* Value	Odds Ratio	95% CI	*p* Value
Mean age in years at entry (*SD*)	22.6 (5.0)	227 (77.0)	0.02	1.021	0.98–1.07	0.36
African American race, *n* (%)	263 (89.2)	($n = 284$) 97 (53–158)	0.01	2.32	1.30–4.13	<0.01
Now married, *n* (%)	32 (11.2)	($n = 295$) 5 (2–9)	<0.01	2.63	2.00–5.78	0.02
Educational level > high school, *n* (%)	($n = 290$)	29 (9.8)	<0.0001	2.00	1.36–2.95	<0.001
Primiparous, *n* (%)	167 (57.6)	104 (35.2)	0.78	NA	NA	NA
Has a partner, *n* (%)	191 (64.8)	61 (20.7)	0.13	NA	NA	NA
Feeding intent, *n* (%) any breastfeeding*	227 (77.0)	58 (19.7)	<0.0001	2.53	1.71–3.81	<0.0001
Enrollment to delivery, median days, (IQR)	($n = 284$) 97 (53–158)	($n = 298$) 97.5 (53–156)	0.99	1.00	0.99–1.003	0.99
Total modules, median, (IQR)	($n = 295$) 5 (2–9)	($n = 307$) 3 (1–6)	<0.0001	1.11	1.05–1.17	0.0001
Selected doula	29 (9.8)	23 (7.5)	0.31	1.05	0.53–2.05	0.89
Pre-partum LC call	104 (35.2)	118 (38.4)	0.42	0.68	0.45–1.02	0.06
Postpartum LC call	61 (20.7)	55 (17.9)	0.39	1.06	0.65–1.74	0.80
Postpartum home visit from LC	58 (19.7)	21 (6.8)	<0.0001	3.79	2.06–6.96	<0.001

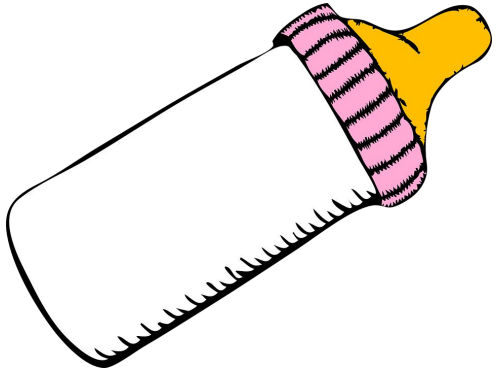
Discussion

- CHW curriculum increased the odds of any breastfeeding at one month
- Lactation counselor delivered home visit postpartum increased the odds of any exclusive breastfeeding at 1 month in this high risk population
- Value: Public health information regarding engagement of high risk populations. Previous research did not analyze CHW in there natural role

Limitations

- Community partners are more policy & funder driver. Academic partners are more data driven
- Doula program: moms first criteria include social isolation and lack of support
- Study was time intensive: would financial compensation be beneficial
- Lack of randomization, blinding, masking

Conclusion: Community academic partnerships utilize the strengths of both organizations. “Nesting” within an experienced community partnership infrastructure using academic statistical expertise was shown to be a beneficial approach to reaching high risk populations.



Works Cited

Furman, L., Matthews, L., Davis, V., Killpack, S., & O'Riordan, M.A. (2016). Breast for Success: A Community–Academic Collaboration to Increase Breastfeeding Among High-Risk Mothers in Cleveland. *Progress in Community Health Partnerships: Research, Education, and Action* *10*(3), 341-353.