

Improving Knowledge Regarding Drug Exposure In Lactation: The Milk and Meds Study

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I have no conflicts of interest to disclose

BACKGROUND

- Human milk is the gold standard for infant feeding
- Increased breastfeeding duration and exclusivity provide the largest gains for mothers and infants
- Ever Breastfed rates
 - Nationally (82.5 ± 1.1%)
 - Florida (76.1 ± 6.6%)
 - Healthy People 2020 target (81.9%)

BACKGROUND

- However, continuation and exclusivity continue to be low
- Several factors are responsible for the statistics, among which is medication usage

Medication Usage

- Sources of medication information
 - Different information
 - Accuracy
 - Limited data
- Health care providers often provide misinformation about medications during breastfeeding
- Medication is a major reason they stop breastfeeding
- However, evidence shows that most medications are compatible with breastfeeding

METHODS

OBJECTIVES

- To assess prenatal breastfeeding intention
- To raise women's opportunity to make an informed infant feeding decision by:
 - Increasing knowledge on benefits and contraindications of breastmilk
 - Providing information on drug exposure in lactation utilizing evidence-based resources on lactation and medications
- To increase breastfeeding initiation, duration and exclusivity rates.

Study Population

- A diverse group of pregnant women at any gestation
- Recruitment Sites: 4 prenatal care sites
 - Genesis
 - Suncoast Dover
 - Suncoast Plant City
 - Suncoast Ruskin

Eligibility Criteria

Inclusion Criteria

- Pregnant women
- 18 to 50 years old
- Provide informed consent in English or Spanish

Exclusion Criteria

- Postpartum patients
- Women with contraindication to breastfeeding such as HIV, HTLV 1 or 2

METHODS

Method

- **Prospective study from August to December 2016**
- **Breastfeeding educational session was presented via an interactive PowerPoint and consisted of materials from:**
 - **American College of Obstetricians and Gynecologists breastfeeding support toolkit**
 - **Medication and lactation resources**
 - **mothertobaby.org**
 - **Hale's Medications and Mother's Milk**
 - **Breastfeeding videos**
- **Classes were led by trained doulas or lactation consultant**

Data Collection (5 study visits)

Time 1: Baseline data prior to the educational session

- Breastfeeding Intention Scale
- Breastfeeding knowledge scale
- Demographic form
- Current Medications and any potential concerns related to breastfeeding

Breastfeeding Knowledge Questionnaire

For each statement below, please indicate your response by circling the number that most closely corresponds to your answer. 1. = True 2. = False 3. = Unsure

Questions	True	False	Unsure
1. Women who have breastfed have a reduced risk of getting type II diabetes.	1	2	3
2. Infants who have breastfed have a reduction in the incidence of developing type 1 and type 2 diabetes mellitus.	1	2	3
3. If I have diabetes and need to use insulin it is safe for me to breastfeed.	1	2	3
4. Colostrum is a mother's early milk which contains antibodies to protect the newborn against disease.	1	2	3
5. If a mother develops sore, reddened, and swollen breast she should stop breastfeeding.	1	2	3
6. Women who have breastfed have higher risk of breast cancer.	1	2	3
7. If a mother feels she is not producing enough breast milk she should supplement with formula.	1	2	3
8. Proper latching involves getting the infant to latch onto the nipple and as much of the areola as possible.	1	2	3
9. Infants who are breastfed are at increased risk of developing diarrhea.	1	2	3
10. Human colostrum is sticky, thick, and yellowish in color.	1	2	3
11. When a mother's breasts become engorged, she should discontinue breastfeeding for a couple days.	1	2	3
12. Gently stroking an infant's cheek can elicit an infant's rooting reflex to turn towards the mother's breast with mouth wide open.	1	2	3
13. Expressed breast milk can be kept refrigerated up to eight days.	1	2	3
14. To avoid over feeding it is important to limit feeding at each breast to 5 minutes.	1	2	3
15. Exclusively breastfed infants feed anywhere from 8 to 12 times a day.	1	2	3
16. Smoking marijuana while breastfeeding is without any risks (or is safe) since it is legal in some states.	1	2	3
17. If I have four beers and pump and dump my breastmilk right after, it will be safe to breastfeed my baby.	1	2	3
18. If I have a cesarean delivery and take prescribed opioids for pain relief as I recover it is safe to continue to breastfeed.	1	2	3
19. If I need a medication for depression while I am breastfeeding I have choices that are safe for my baby.	1	2	3
20. After I have my baby if I need to continue to take medications for high blood pressure I have choices that are safe for my baby.	1	2	3

Questions Related to Drugs	True	False	Unsure
If I have diabetes and need to use insulin it is safe for me to breastfeed.	1	2	3
Smoking marijuana while breastfeeding is without any risks (or is safe) since it is legal in some states.	1	2	3
If I have four beers and pump and dump my breastmilk right after, it will be safe to breastfeed my baby.	1	2	3
If I have a cesarean delivery and take prescribed opioids for pain relief as I recover it is safe to continue to breastfeed.	1	2	3
If I need a medication for depression while I am breastfeeding I have choices that are safe for my baby.	1	2	3
After I have my baby if I need to continue to take medications for high blood pressure I have choices that are safe for my baby.	1	2	3

Infant Feeding Intention

Please choose the answer from below that most closely matches your opinion, considering both your feeding plans and the likelihood that you will carry out those plans

	Very Much Agree	Some What Agree	Unsure	Some What Disagree	Very Much Disagree
I am planning to only formula feed my baby (I will not breastfeed at all)	0	1	2	3	4
I am planning to at least give breastfeeding a try	4	3	2	1	0
When my baby is 1 month old, I will be breastfeeding without using any formula or other milk	4	3	2	1	0
When my baby is 3 months old, I will be breastfeeding without using any formula or other milk	4	3	2	1	0
When my baby is 6 months old, I will be breastfeeding without using any formula or other milk	4	3	2	1	0

Data Collection

- Time 2: Data post educational session
 - Infant Feeding Intention scale
 - Breastfeeding knowledge questionnaire were repeated
 - Evaluation of the educational session provided
- Time 3: Detailed maternal and neonatal outcomes were collected from EMR, including medication use and breastfeeding

Data Collection

- **Time 4**: Detailed information on infant feeding and concerns regarding medications were collected by doulas or members of the research team via phone calls at 2 weeks postpartum.
- **Time 5**: Collection of detailed information on infant feeding and medication usage at 6-8 weeks postpartum by doulas or investigators via phone calls.

RESULTS

Demographics

DEMOGRAPHICS	PERCENT
Hispanic	64
Unmarried	70
Unemployed	65
Medicaid/Medicare Coverage	73
High School Diploma or less	65
Household Income < \$10,000 per year	48

Medication Usage Prenatal

- **Most common medications were**
 - **Iron (10)**
 - **Antibiotics (6)**
 - **Anti-glycemics (5)**
 - **Injectable anticoagulation (7)**
- **About 10% of women reported concerns regarding medication usage and infant safety during lactation.**

EFFECT OF INTERVENTION

SURVEY	PRE-INTERVENTION	POST-INTERVENTION	DIFFERENCE
Breastfeeding Knowledge	7.24	11.85	4.62 (3.71-5.52) (p=0.001)
Infant Feeding Intention	12.09	12.93	0.84(0.24-1.44) (p=0.007)

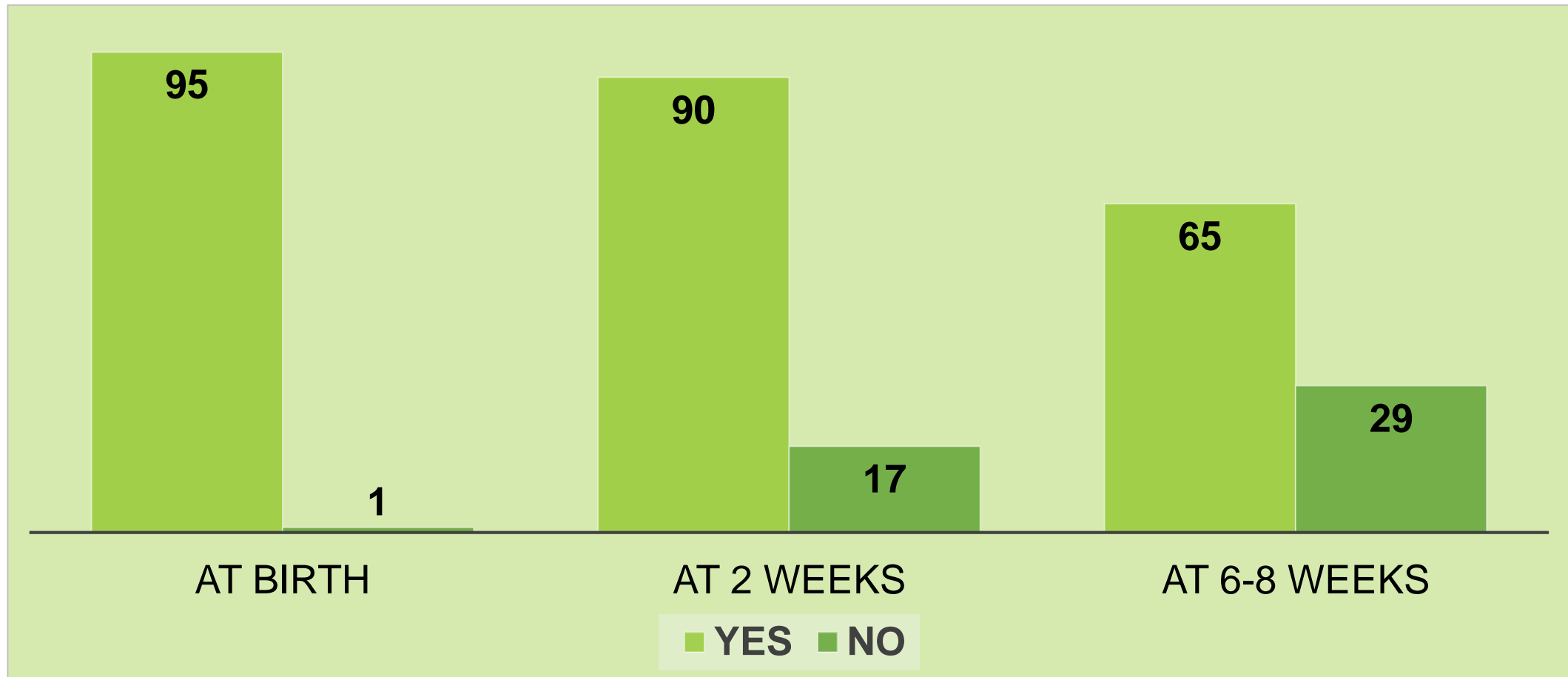
EFFECT OF INTERVENTION

Prescribed or Recreational drugs	Pre-Education score(%)	Post-Education score(%)	P-value
OPIOD	24	59	0.0209
ANTIDEPRESSANTS	37	63	0.0047
ANTI-HYPERTENSIVES	40	64	0.6547
INSULIN	19	48	0.0047
MARIJUANA	71	81	0.8371
ALCOHOL	67	72	0.5271

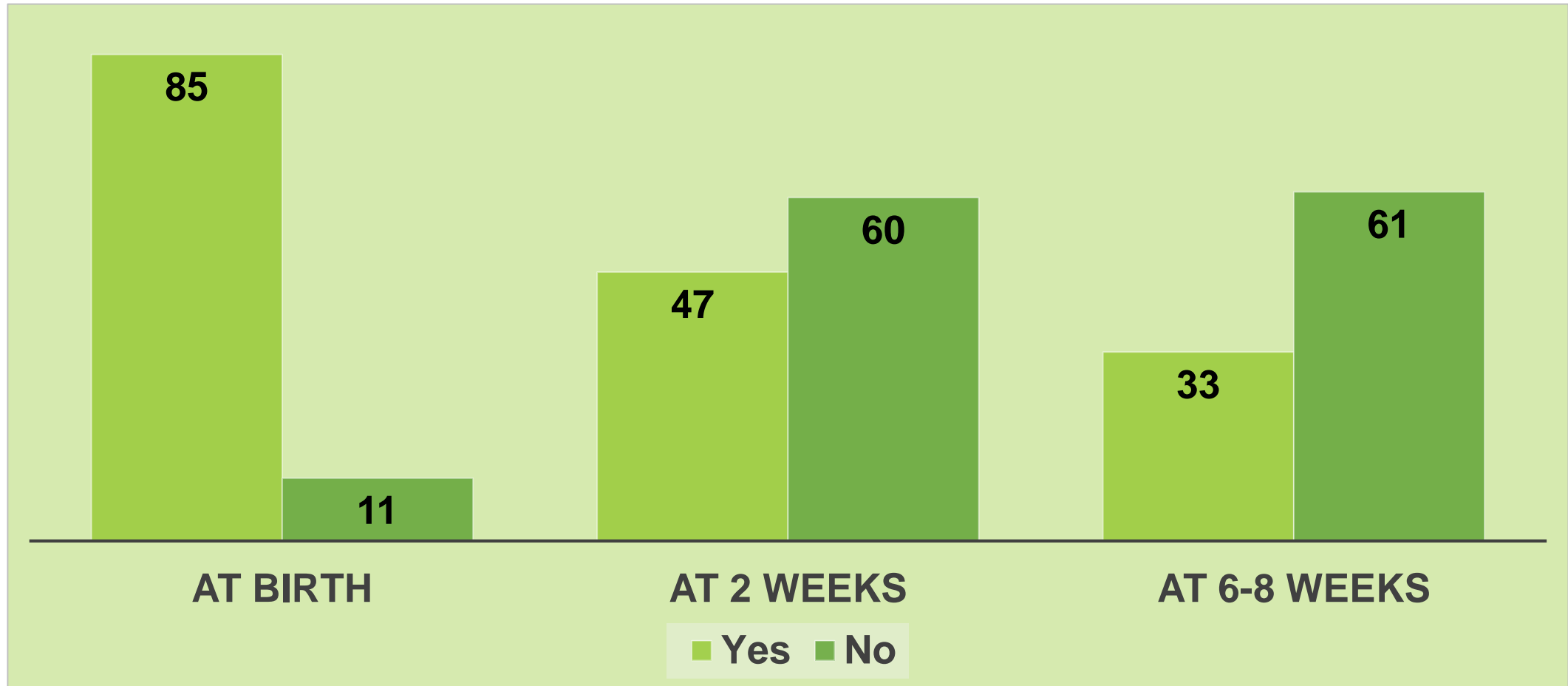
SATISFACTION LEVEL

- **How satisfied were you with the program? (n=117)**
- **108(92.3%) were very satisfied with the session.**
- **6(5.1%) were somewhat satisfied with the session.**
- **2(1.7%) were neither satisfied no dissatisfied**
- **2(1.7%) were very dissatisfied with the session**

ANY BREASTFEEDING RATES



EXCLUSIVE BREASTFEEDING RATES



	Breastfeeding at 2 weeks		Breastfeeding at 6-8 weeks	
	BF	Not BF	BF	Not BF
AGE (mean ± SD)	26.56(5.26)	26.82(3.54)	27.12(5.52)	25.07(4.42)
	N (%)	N (%)	N (%)	N (%)
HISPANIC	56(52.34)	10(9.35)	38(40.86)	17(18.28)
Non Hispanic	34(31.78)	7(6.54)	26(27.9)	12(12.9)
EDUCATION				
≤High School	54(51.43)	11(10.48)	35(38.04)	21(22.83)
Above High School	33(33.33)	5(4.76)	28(30.43)	8(8.7)
EMPLOYMENT				
Not fully employed	72(72.73)	10(10)	53(59.55)	20(22.47)
Fully Employed	11(11.11)	6(6.06)	8(8.99)	8(8.99)
HOUSEHOLD INCOME				
≤ \$10,000	36(39.13)	7(7.61)	31(37.8)	9(10.98)
> \$10,000	42(45.65)	7(7.61)	26(31.7)	16(19.51)
HEALTH INSURANCE				
NO	24(22.64)	5(4.72)	15(16.3)	8(8.7)
YES	65(61.32)	12(11.32)	48(52.17)	21(22.83)

Logistic regression of breastfeeding and use of medication

Breastfeeding at 2 weeks(N=81)

	Unadjusted OR (CI)	p-value	Adjusted OR (CI)	p-value
Use of medication	1.171(0.461-2.975)	0.74	1.167(0.326-4.174)	0.8125
Previously Breastfed	1.736(0.612-4.926)	0.3	2.731(0.769-9.731)	0.1212
Full Employment	3.927(1.189-12.968)	0.0248	0.225(0.06-0.0843)	0.0268

Logistic Regression use of medication and breastfeeding

Breastfeeding at 6-8weeks(N=60)

	Unadjusted OR (CI)	p-value	Adjusted OR (CI)	p-value
Use of medication	1.616(0.543-4.808)	0.3883	0.832(0.237-2.922)	0.7745
Age	1.086(0.987-1.194)	0.0894	1.089(0.961-1.234)	0.1828
Infant Feeding Intention Score	1.074(0.972-1.187)	0.1614	1.076(0.922-1.256)	0.3496
INCOME	2.12(0.804-5.585)	0.1286	1.626(0.486-5.442)	0.436

DISCUSSION

DISCUSSION

Two women stopped breastfeeding due to medication concerns

- Mastitis
- Influenza

STRENGTHS AND WEAKNESSES

■ Strengths

- Prospective Study
- Diverse
- Doulas
- Sustainable

■ Weakness

- Not a Cohort Study
- Comparison group

CONCLUSION

- Interactive prenatal breastfeeding education session improved knowledge & infant feeding intention
- Medication specific knowledge also improved
- Participants' had high satisfaction scores
- Medication usage was not associated with breastfeeding rates
- Currently, the prenatal breastfeeding session is offered once every month at the 4 prenatal sites by the doulas.

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Questions

Supplementary information

https://www.youtube.com/watch?v=ax85hE3_2uE

<http://mothertobaby.org/>

https://www.youtube.com/watch?v=6nmNQ_0jqkk

Breastfeeding Goals

- **What is your breastfeeding goal? (n = 104)**
 - 97% mentioned intention to breastfeed.
 - 27(26%) had goals of breastfeeding up to 6 months
 - 23(22%) had goals of breastfeeding up to a year
 - 9(8.7%) had goals of breastfeeding for more than a year
 - 10(9.6%) mentioned any form of exclusive breastfeeding
 - 7(6.7%) intend to use pump in the course of their breastfeeding
 - 4(3.8%) said as long as they could
 - 5(4.8%) had goals of keeping their baby healthy
 - 3(2.9%) will just try
 - 2(1.9%) had no idea