Preliminary Results from an Acceptance and Commitment Therapy and Motivational Interviewing Intervention for New Mothers of Infants Exposed to Perinatal Substance Use

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BACKGROUND

- Infants exposed to substance use in utero often require NICU hospitalization.
- Mothers of NICU infants are motivated to engage in health-seeking behaviors; however, postpartum interventions designed for this population to prevent future substance-exposed pregnancies have not been tested.
- A randomized, controlled, pilot trial tested the efficacy of a newly developed, adaptive, brief, hospital-delivered intervention comprising a novel combination of evidence-based treatments (motivational interviewing [MI] and acceptance and commitment therapy [ACT]) targeting substance use treatment and contraception initiation.

PRIMARY AIM

The aim of this pilot trial was to test the initial efficacy of a brief MI and ACT intervention, within a NICU setting, to initiate substance use treatment and reproductive care among women who used substances during their pregnancy.

METHODS

- NICU mothers who reported use or tested positive for any illicit substance at their infants' birth (N = 64) were randomized to either MI-ACT or Conventional Care (control).
- MI-ACT treatment intensity (1, 2, or 3 sessions) varied based upon participant response (i.e., treatment/contraception initiation), per the adaptive intervention strategy (see Figure 1).
- Total treatment time (MI-ACT intervention and participant initiation of substance treatment or reproductive care) was within an 8 week window.
- Research staff administered an interview and participants completed a self-report questionnaires on substance use treatment and reproductive care initiation.
- The MI-ACT intervention was delivered by trained Masters and Doctoral level therapists.

Figure 1. Adapted intervention based on meeting treatment outcomes
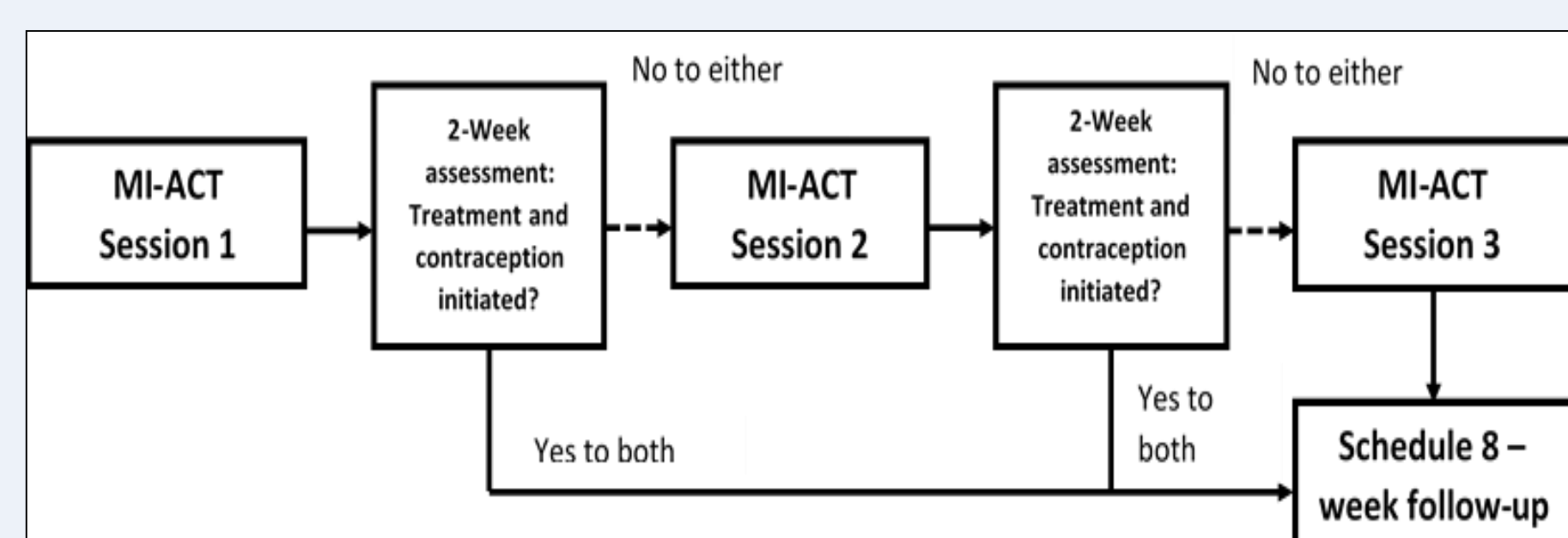
RESULTS

Table 1: Characteristics of Study Sample (n=64)

Demographics		n (%)
Race or ethnicity		
	Black/African-American	42 (65.6)
	White, non-Hispanic	5 (7.8)
	More than 1 race	10 (15.6)
	White, Hispanic	7 (10.9)
Relationship status		
	Single (never married)	34 (53.1)
	Married	4 (6.3)
	Separated	5 (7.8)
	Living together but not married	21 (32.8)
Household income		
	Less than $10,000	36 (58.1)
	$10,000 to $19,999	10 (16.1)
	$20,000 to $29,999	5 (8.1)
	$30,000 to $39,999	4 (6.5)
	$40,000 to $49,999	3 (4.8)
	$50,000 or more	4 (6.5)
Pregnancy Medicaid		
	No	1 (1.6)
	Yes	63 (98.4)
Pregnancy planned [current]		
	No	41 (64.1)
	Yes	23 (35.9)
Positive drug screen type prenatal and/or at delivery	Marijuana only	35 (54.7)
	Poly substance use or other drug	29 (45.3)
		Mean (SD)
Education [years]		12.05 (1.79)
Number of unplanned pregnancies		2.00 (1.92)
Number of miscarriages		0.67 (0.91)
Number of abortions		0.11 (0.40)
Number of births		3.03 (1.88)
Number of premature births		0.59 (1.00)
Number of infant deaths		0.20 (0.46)
Week learned pregnant [current]		11.48 (7.95)
Week attend prenatal care [current]		13.40 (7.76)

Table 2: Participant Self-assessment of Seriousness and Likelihood of Future Pregnancies at Baseline (n=64)

		n (%)
How serious a problem if pregnant again	Extremely serious problem	44 (68.8)
	Very serious problem	7 (10.9)
	Somewhat serious problem	6 (9.4)
	Not very serious problem	0 (0)
	Not a problem at all	7 (10.9)
How likely become pregnant [next few months]	Extremely likely	2 (3.1)
	Very likely	2 (3.1)
	Somewhat likely	4 (6.3)
	Not very likely	13 (20.3)
	Not at all likely	43 (67.2)

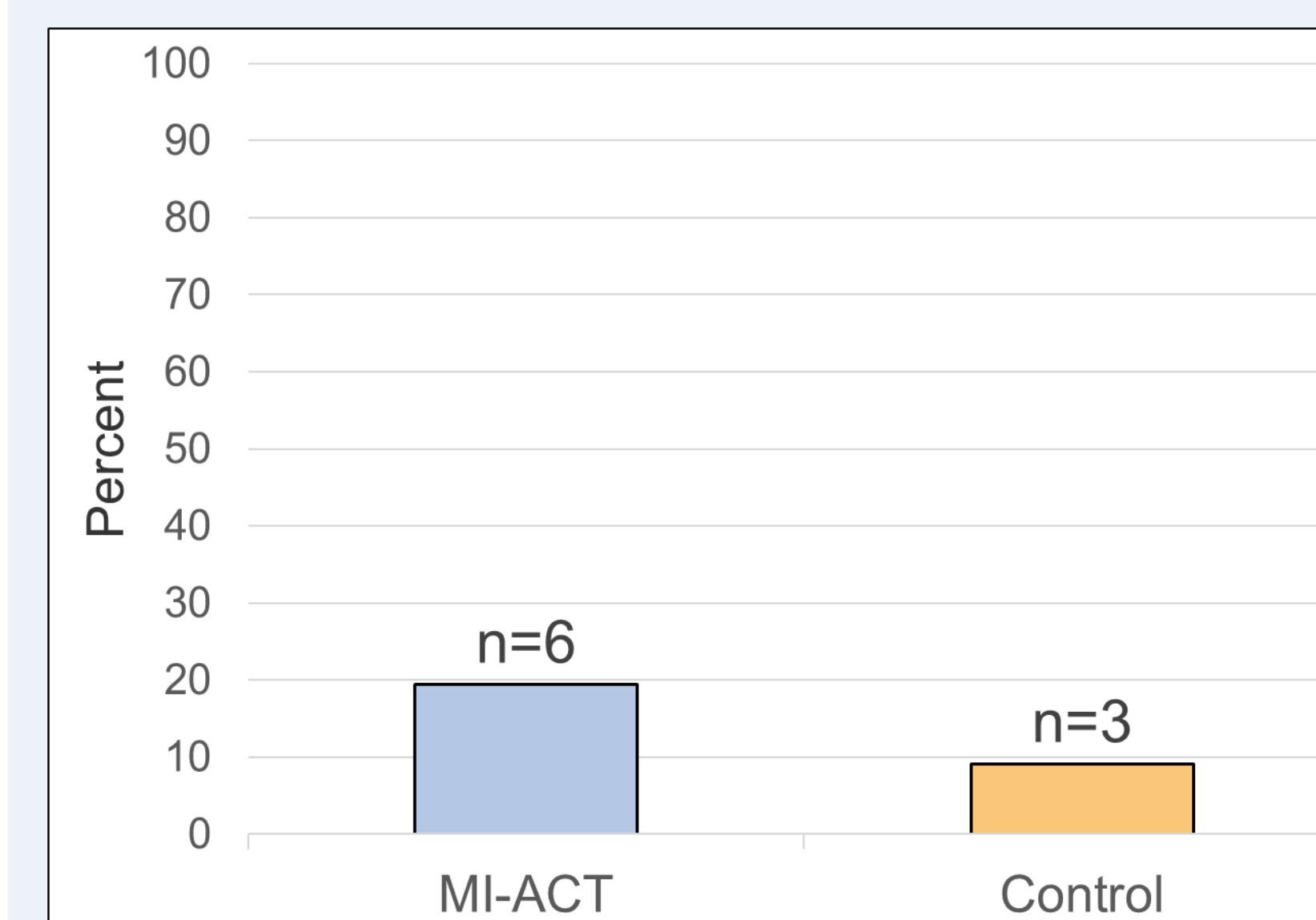Figure 2. Substance Use Treatment Initiation by Study Condition

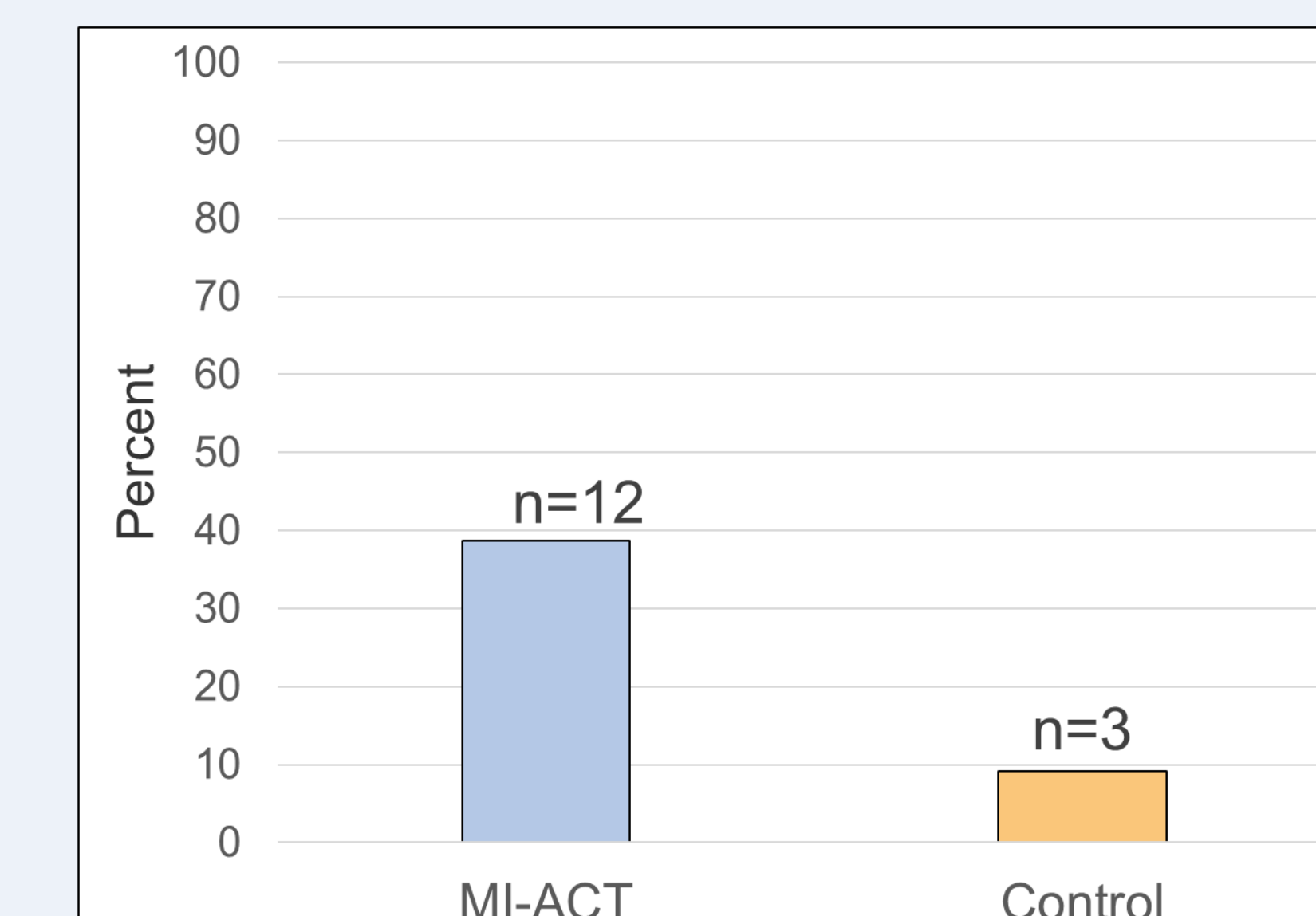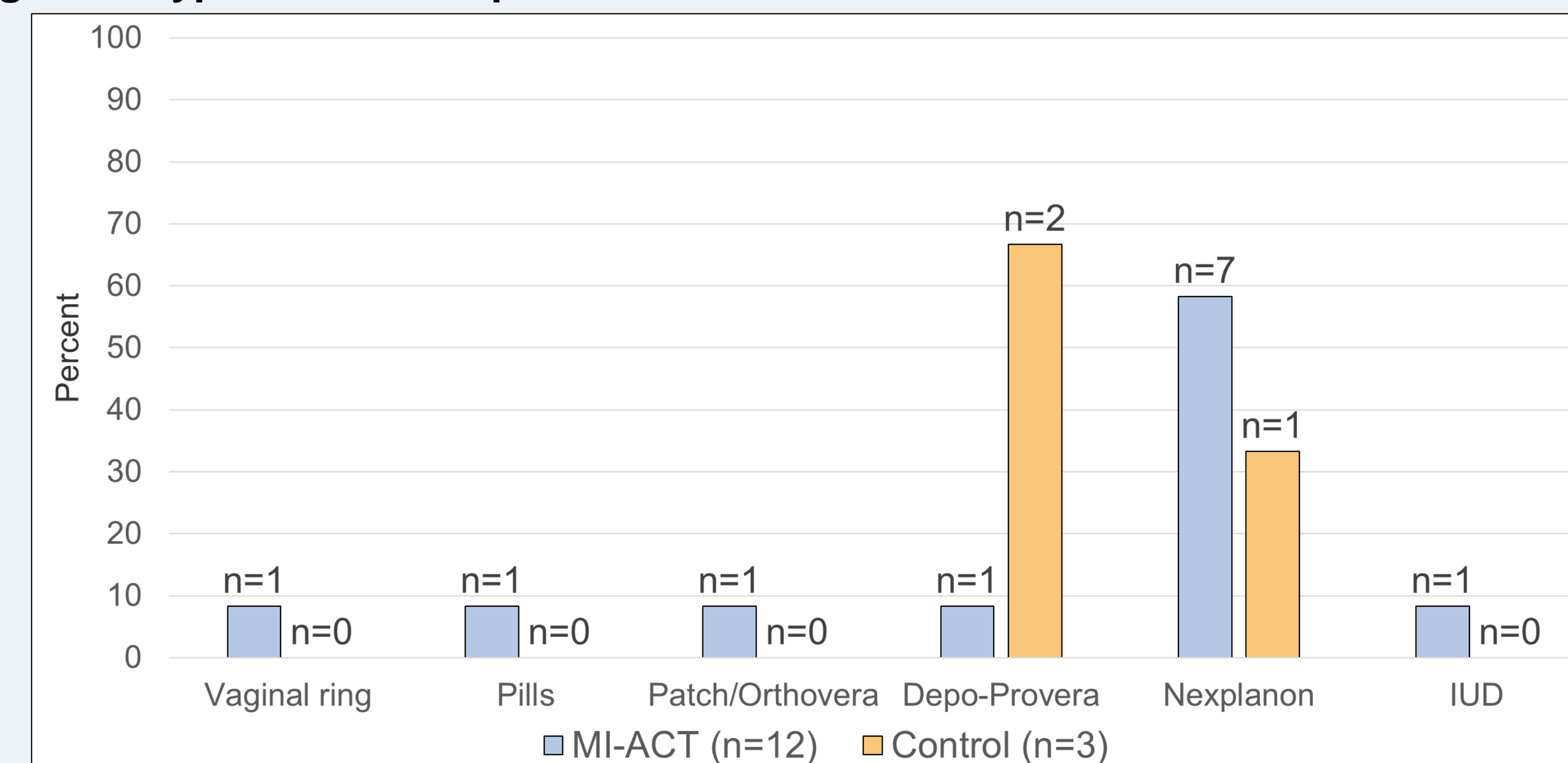Figure 3. Contraception Obtained by Study Condition

Figure 4. Type of Contraception Received

- During the 8-week treatment window, MI-ACT participants reported initiating in-person treatment intake assessment more often than mothers in the conventional care group (**19.4% vs. 9.1%**), although the analysis failed to reach statistical significance (**$X^2 = 1.4$, p=0.24**).
- Mothers who received MI-ACT were significantly more likely to receive contraception during an OB/GYN postpartum visit, as compared to mothers who received conventional care (**38.7% vs. 9.1% [X^2=7.8, p<0.01]**).
- A majority of **MI-ACT participants (66.7%)** chose longer-acting (3 or more years) **Progesterone or Levonorgestrel** (e.g., Nexplanon, Mirena IUD); whereas a majority of **conventional care participants chose shorter-acting (3 months) Depo-Provera injections (66.7%).**

CONCLUSIONS

- MI-ACT is an effective, brief, hospital-based intervention for mothers who deliver substance-exposed infants in the NICU, although rates of treatment entry remain low.
- Results indicate MI-ACT with mothers of substance-exposed infants led to increased utilization of longer-acting reproductive care, which may reduce the incidence of future substance-exposed pregnancies.
- While not statistically significant, a larger proportion of mothers in MI-ACT initiated substance-use treatment. Future research should explore the effect of MI-ACT on other substance use outcomes (i.e., usage) and within other healthcare settings (e.g., OB floor, prenatal clinics, etc.).