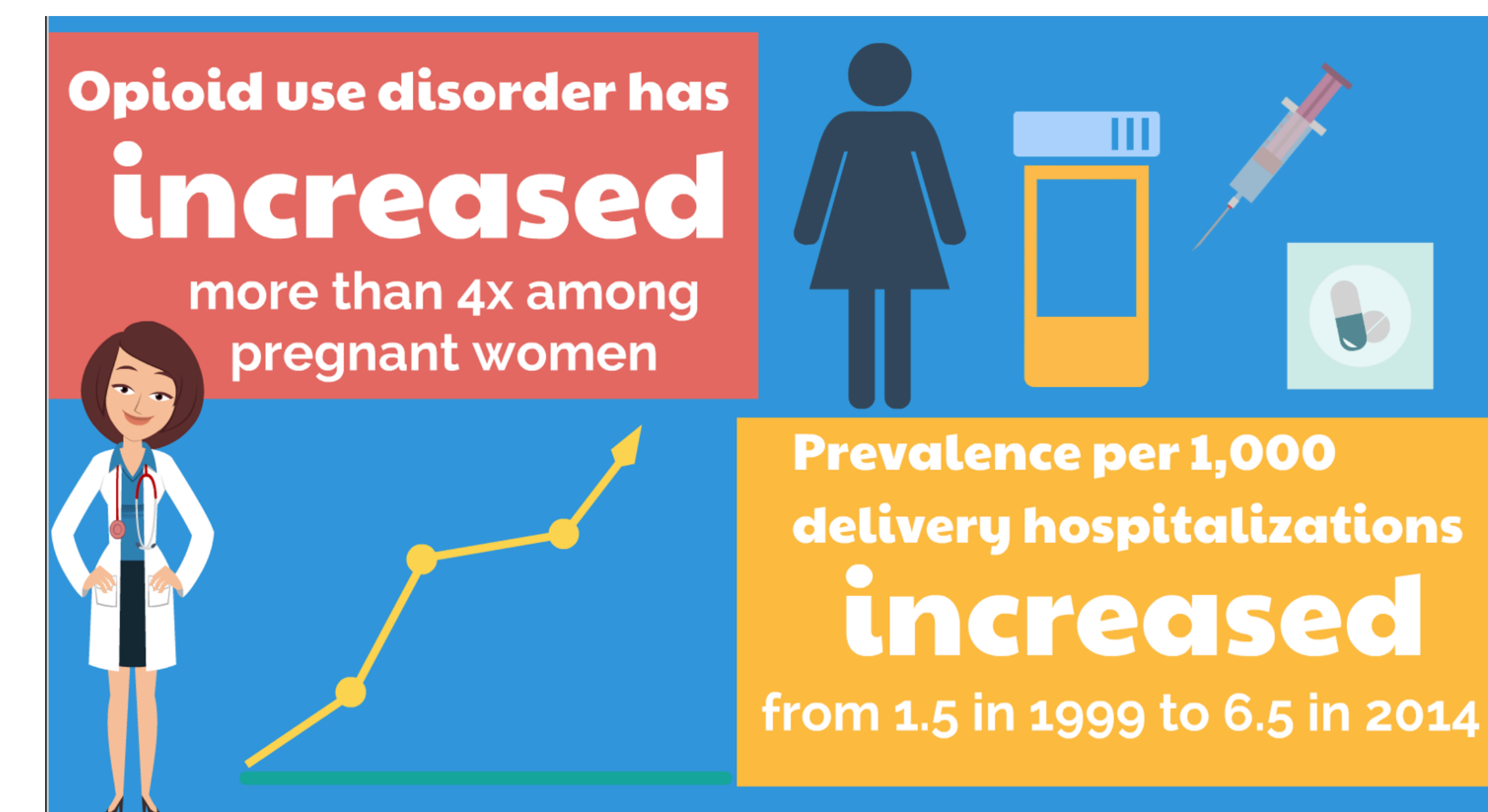


# Risk Factors for Preterm Delivery in Women on Opioid Maintenance Therapy (OMT)

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## INTRODUCTION

Women with opioid use disorders (OUD) are at increased risk of adverse pregnancy outcomes, including preterm labor.<sup>1</sup> Management of OUD with opioid maintenance therapy (OMT) has significantly improved maternal and neonatal outcomes, but OMT continues to have its own specific risks.<sup>2</sup>



**Opioid use disorder has increased more than 4x among pregnant women**

**Prevalence per 1,000 delivery hospitalizations increased from 1.5 in 1999 to 6.5 in 2014**

## AIM

This study evaluated maternal characteristics, behavior patterns, and opioid maintenance therapy and their effect on preterm birth.

## METHOD

- Retrospective cohort study of maternal/neonatal dyads through the institutions' Maternal Opioid Management Support (MOMS) program from 2017 to 2020
- Inclusion:** Women receiving OMT (methadone or buprenorphine)
- Primary outcome:** Preterm birth less than 37 weeks
- Maternal demographics, pregnancy behaviors, and medication exposure were collected along with maternal and fetal outcomes
- Statistical analysis, including logistic regression modeling, was performed with significance levels of <0.05 using R Studio (V1.2.5042)

## RESULTS

- 242 women received OMT during pregnancy
- 37 (15.3%) had a preterm birth
  - Average GA at delivery: 32.87 weeks (SD 3.8)
- 205 (84.7%) women had a term delivery
  - Average GA at delivery: 38.9 weeks (SD 1.1)
- There were no differences in maternal characteristic or pregnancy behaviors across women who delivered preterm versus at term (Table 1)
- Women admitted for detoxification and transitioned to OMT in pregnancy were less likely to deliver preterm
  - OR 0.30, 95%CI(0.11-0.90), p= <0.02



Table 1: Univariate Analysis of Maternal Characteristics & Pregnancy Behaviors with Preterm Delivery

	Preterm Birth	Term Birth	p-value
Age (yrs)	30.7 (4.8)	30.8 (4.9)	0.93
BMI (kg/m <sup>2</sup> )	29.2 (7.1)	30.7 (6.5)	0.24
Caucasian	34 (94.4)	187 (92.1)	0.67
Unemployed	14 (40.0)	82 (40.8)	0.76
Single/Unmarried	27 (73.0)	167 (81.5)	0.49
Multiparous	16 (43.2)	75 (36.6)	0.55
Psychiatric Med			0.29
- None	20 (54.1)	138 (67.3)	
- One	12 (32.4)	47 (22.9)	
- Two or more	5 (13.5)	20 (9.8)	
Tobacco Use	25 (78.1)	108 (74.0)	0.79
Active Drug Use	8 (24.2)	41 (22.5)	0.97
OMT			0.52
- Buprenorphine	24 (64.9)	147 (71.7)	
- Methadone	13 (35.1)	58 (28.3)	
High Dose OMT	22 (59.5)	122 (59.5)	1
OMT Prescriber			0.69
- Obstetrician	9 (27.3)	61 (32.4)	
- Methadone/Pain Clinic	24 (72.7)	127 (67.6)	
Maternal Co-morbidities	9 (24.3)	42 (20.5)	0.76
Adequate Prenatal Care	19 (51.4)	117 (57.1)	0.64
Initial Trim of Care			0.13
- First	7 (18.9)	59 (28.8)	
- Second	2 (5.4)	27 (13.2)	
- Third	28 (75.7)	119 (58.0)	
Detoxification in Pregnancy	8 (21.6)	15 (7.7)	<b>0.02</b>
Neonate Gender, female	19 (51.4)	102 (49.8)	0.98

\*n(%) or mean(SD)

## CONCLUSIONS

Admission for detoxification during pregnancy decreases risk of preterm delivery.

Maintenance therapy with methadone or buprenorphine in our population did not impact gestational age at delivery.



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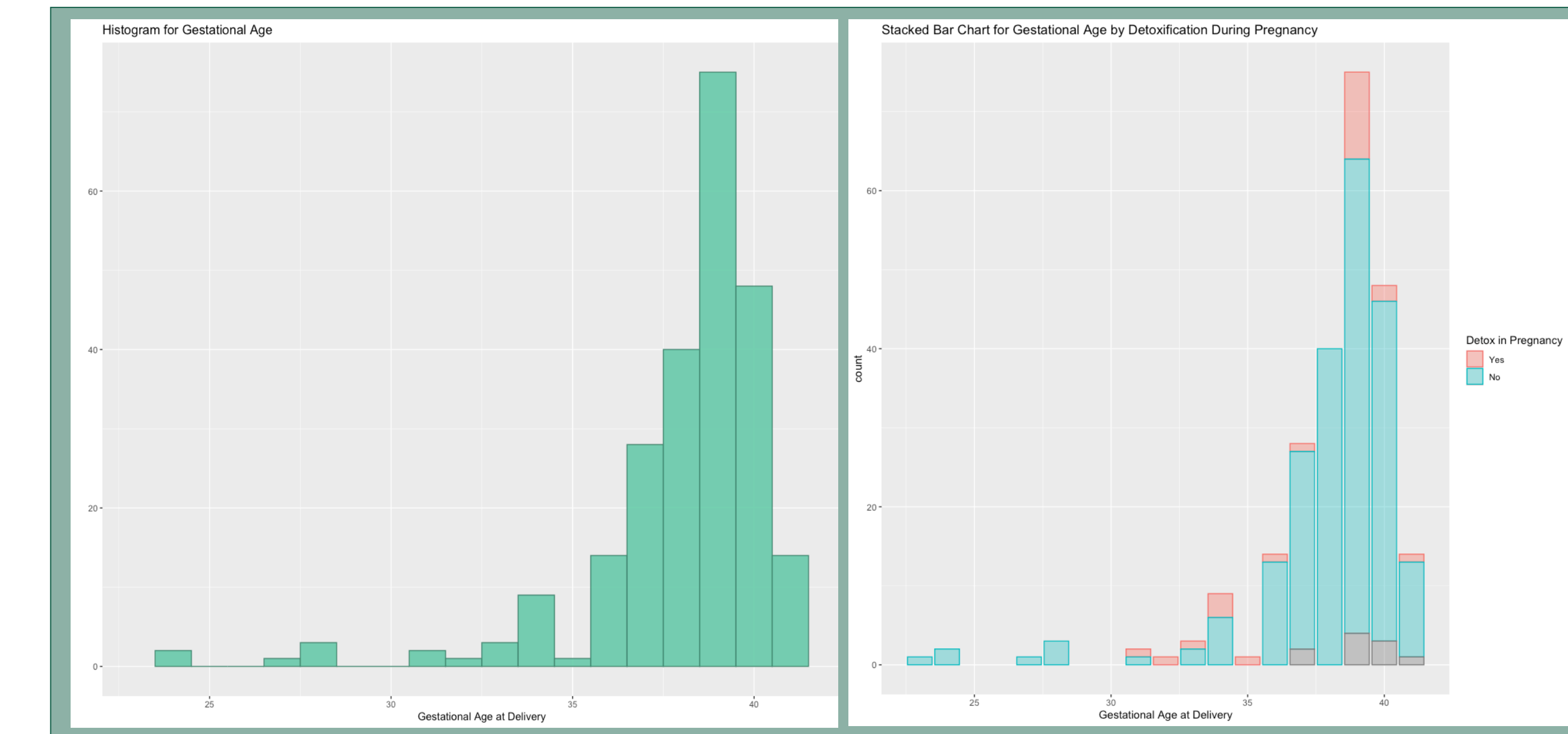


Figure 1 (above): [Left] Histogram showing gestational age at delivery across the entire cohort of women receiving OMT; [Right] Stacked Bar Chart showing gestational age at delivery between women who underwent detox versus not (significant difference)

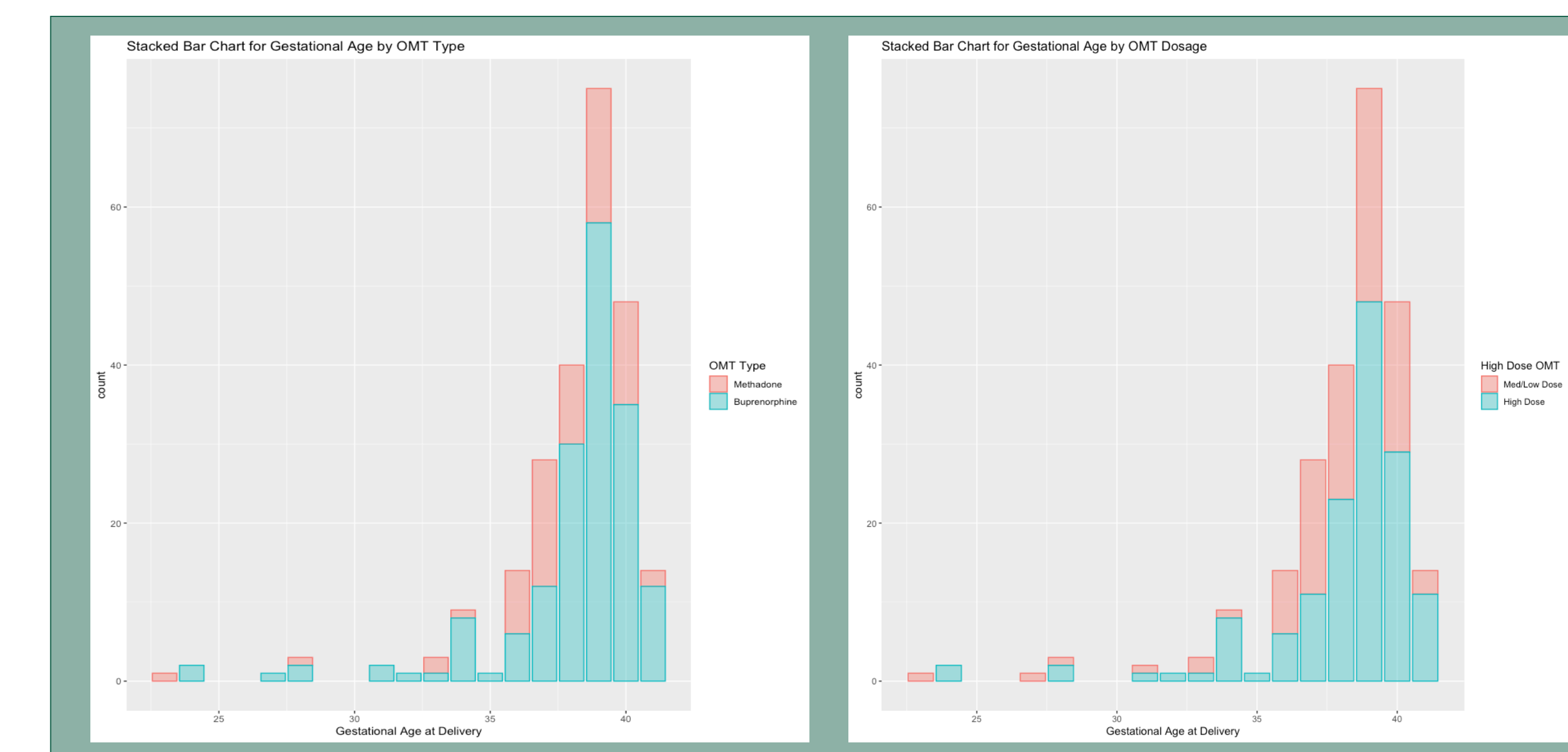


Figure 2 (above): [Left] Stacked bar showing gestational age at delivery between women on Methadone versus Buprenorphine OMT; [Right] Stacked Bar Chart showing gestational age at delivery between women on high dose OMT versus not (not significant difference)