PREDICTORS AND CONSEQUENCES OF SUBSTANCE USE AMONG PREGNANT CIGARETTE SMOKERS

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Objectives

To investigate:

- Predictors for substance use among pregnant cigarette smokers (i.e., co-use of tobacco and substance)
- The effects of co-use on success in smoking cessation
- The effects of co-use on maternal and infant health

Background

- Co-use of tobacco and marijuana is common among teens and young adults (Ramo 2012)
- Marijuana is the most commonly used (illicit) substance during pregnancy (Metz 2015)
- As the main psychoactive compound of marijuana, tetrahydrocannabinol (THC) is able to cross the placenta as well as contaminate breastmilk in expectant and lactating mothers, respectively (Jaques 2014)
- Marijuana use throughout pregnancy is associated with growth restriction in mid- and late pregnancy, leading to low birth weight (Jaques 2014)

Methods

- **Sample**: 56 pregnant smokers from UB Pregnancy and Smoking Cessation Study (2015-2017; Buffalo, NY)
- **Measurements**: substance use, socio-demographics, breastfeeding intention (self-report via survey), smoking status (urine cotinine), anthropometrics (scales)
- **Data analysis**: ANOVA and Chi-square tests in SAS 9.3 software

Study flowchart

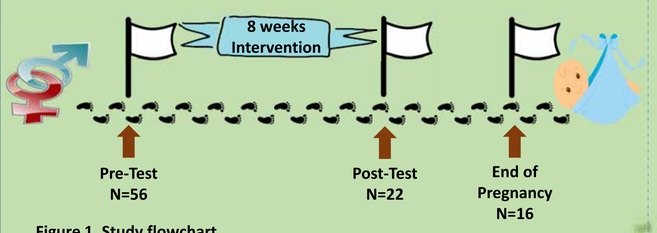

Figure 1. Study flowchart

Results

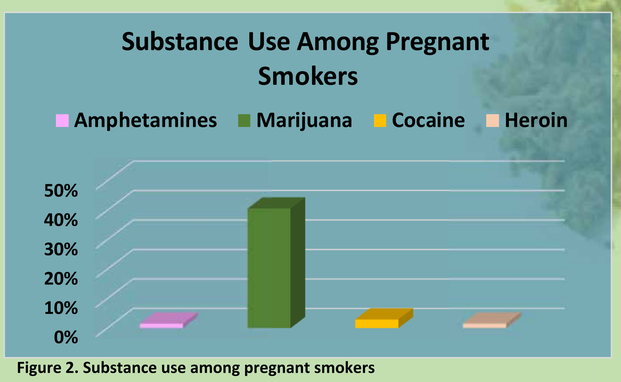

Figure 2. Substance use among pregnant smokers

- Marijuana was the most commonly used substance during pregnancy (47.5%), followed by cocaine (3.1%).

Table 1. Socio-demographic, pregnancy, and smoking characteristics of the eligible sample (N=56)

Characteristic	n (%)	Mean (SD)
Age, years		27.9 (5.6)
≤ 24	19 (33.9)	
25-29	16 (28.6)	
≥ 30	21 (37.5)	
Race/ethnicity		
Non-Hispanic, Caucasian	14 (25.0%)	
Non-Hispanic, African American	33 (58.9%)	
Hispanic or American Indian	9 (16.1%)	
Education level		
High school or lower	28 (50.0%)	
Some college or vocational training	20 (35.7%)	
2-year or 4 year college degree	8 (14.3%)	
Married	16 (28.6%)	
Employed	19 (33.9%)	
Household income, US dollars		
< 5,000	19 (33.9%)	
5,000-11,999	13 (23.2%)	
12,000-24,999	12 (21.4%)	
≥ 25,000	12 (21.4%)	
Gestation at enrollment, weeks		
≤ 13	31 (55.4%)	
24-27	23 (41.1%)	
≥ 28	2 (3.6%)	
Number of cigarettes smoked, per day		
1-4	11 (19.6%)	
5-9	24 (42.9%)	
≥ 10	21 (37.5%)	

Figure 3. Sample Characteristics

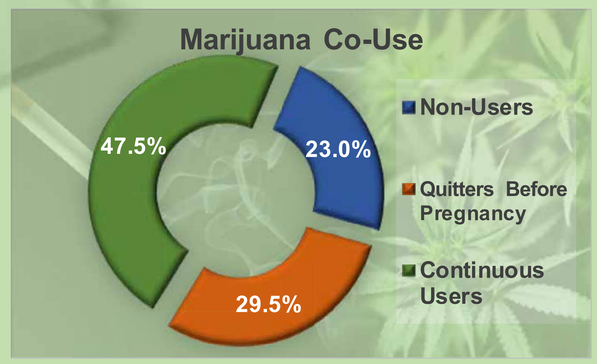

Figure 4. Proportion of marijuana co-user among pregnant cigarette smokers

- 77% of pregnant cigarette smokers in our study have used marijuana at least once in their lives
- 47.5% continued to use marijuana during their pregnancy

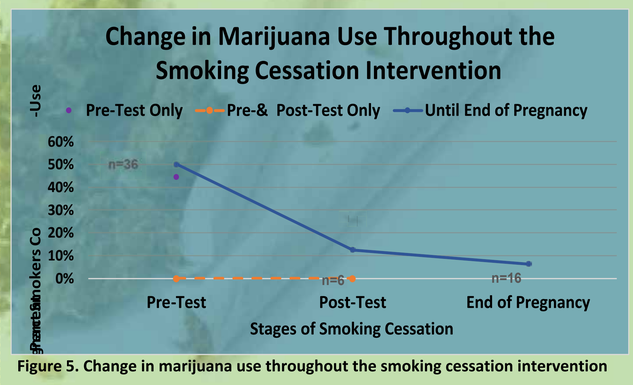

Figure 5. Change in marijuana use throughout the smoking cessation intervention

- After our intervention on cigarette smoking cessation, only 12.5% still used marijuana
- Further decreased to 6.3% by the end of pregnancy

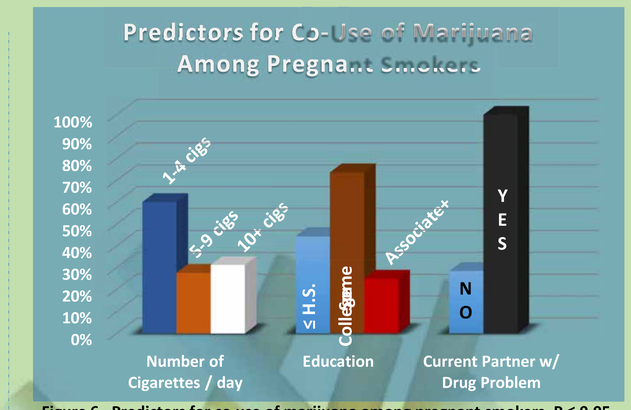

Figure 6. Predictors for co-use of marijuana among pregnant smokers. P ≤ 0.05

- 60.0% of light smokers (1-4 cigs/day) also used marijuana during pregnancy, which was much higher compared to moderate (5-9 cigs/day; 27.6%) and heavy smokers (10+ cigs/day; 31.3%)
- 73.7% with some college education used marijuana during pregnancy, which was much higher than those with completion of ≤ high school (25.0%) or a college degree (44.4 %)
- 100% (vs 28.6%) of the participants who believed that their current partner has a drug problem used marijuana during pregnancy

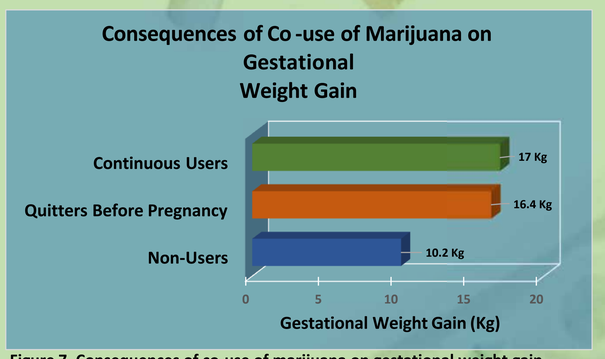

Figure 7. Consequences of co-use of marijuana on gestational weight gain

- Although not significant, marijuana users had higher mean gestational weight gain than non-users

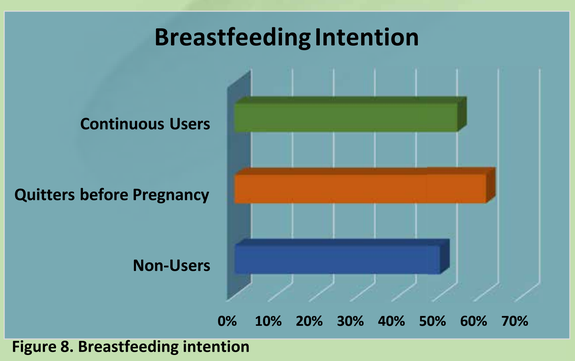

Figure 8. Breastfeeding intention

- Also not significant, but interesting to point out, cessation of marijuana use before pregnancy was associated with higher breastfeeding intention

Conclusion

- Majority of our participants have reported marijuana use in their lifetime. However, most of them quit marijuana as our cigarette smoking cessation intervention and their pregnancies progressed.
- Light cigarette smoking, some college education, and having partner with drug problems predict co-use of marijuana during pregnancy among cigarette smokers.
- The co-use of marijuana and cigarettes did not predict gestational weight gain and breastfeeding intention.
- The co-use of marijuana and cigarettes did not predict other maternal and infant outcomes including the mother's success in quitting smoking cigarettes and sleep quality; infant's gestational age, weight, length, or body mass index at birth. (data not shown)

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Acknowledgement

- **Collaborators**: Dr. Leonard H. Epstein, Dr. Stephen T. Higgins, Dr. Rina D. Eiden, Dr. Faye E. Justicia-Linde, Dr. Youfa Wang, Dr. Kai Ling Kong, Rocco A. Paluch
- **Research Assistants**
- **Health professionals at recruitment sites**
- **All patients and their families**

Funding

- NIH CTSA Pilot Fund, UB Dept of Pediatrics, CURCA

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