Smoking Characteristics and Psychiatric Comorbidities of Pregnant Smokers: An Analysis of The Quit4Baby Randomized Controlled Trial

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INTRODUCTION

Text messaging or short message service (SMS) programs have been shown to be effective in helping adult smokers quit smoking (Abroms et al., 2014). However, to our knowledge, no prior research has examined psychiatric comorbidities associated with smoking in the text messaging context. The risk of smoking has been shown to increase as a function of the number of psychiatric illnesses with which a person is diagnosed (Aubin, Rollema, Svensson, &, Winterer 2012). The current study examined this association and other correlates of smoking-psychiatric comorbidity in a sample of U.S. pregnant smokers enrolled in Quit4Baby, a smoking cessation text messaging program for pregnant smokers that was adapted from Text2Quit.

AIMS

1) To investigate the relationship between psychiatric comorbidities (anxiety, depression and bipolar disorder) and smoking characteristics in Quit4Baby RCT participants.

METHODS

Figure 1 – Recruitment Flowchart
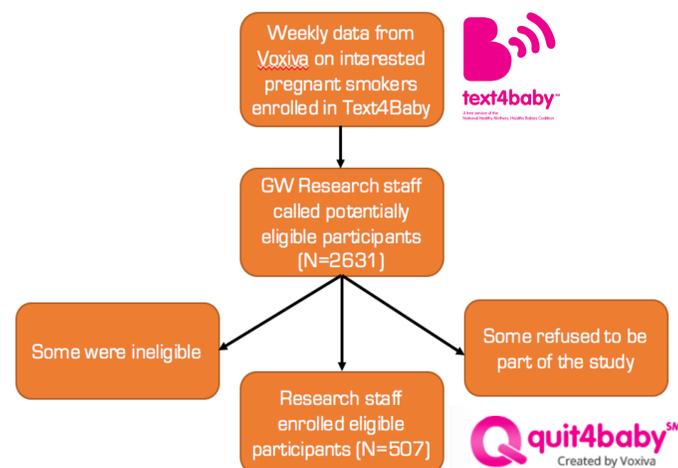
Interested participants under the age of 14, not pregnant, without a cell phone for personal use, and not currently smoking were ineligible. Baseline characteristics of the sample were collected from eligible participants.

The descriptive statistics includes the baseline sociodemographic and smoking characteristics, and mental health profile for the study sample. Nicotine dependence was assessed using Fagerstrom Test for Nicotine Dependence (Fagerstrom et al., 1991), with a sum score of 0–2 indicating the lowest and a score of 6 or more the highest degree of dependence.

RESULTS

Table 1 – Baseline Sample Characteristics (N=507)

		Light Smoker		Moderate Smoker		Heavy Smoker	
		N	% or M (SD)	N	% or M (SD)	N	% or M (SD)
Sociodemographic Characteristics							
Age		315	25.9 (6.2)	134	27.1 (5.5)	34	28.4 (5.0)
Ethnicity	White	200	61.9	116	84.1	29	82.9
	Black/ African American	104	32.2	19	13.8	3	8.6
Education	12 Grade or Less	72	22.3	41	29.7	17	48.6
	High School Graduate or GED	103	31.8	53	38.4	9	25.7
	Some College	111	34.4	36	26.1	8	22.9
Work Status	Not at all	198	61.3	103	74.6	30	85.7
Health Insurance	Medicaid/Medicare	254	78.6	111	80.4	33	94.3
Marital Status	Single, Never married	141	43.7	41	29.7	11	31.4
	Living Significant Others	104	32.2	49	35.5	9	25.7
	Married	53	16.4	33	23.9	11	31.4
Household Income	Up to $15,000	170	52.6	84	60.9	22	62.9
Mobile Phone Ownership	Smartphone	275	85.1	122	88.4	28	80.0
Psychiatric Comorbidities	Anxiety	84	26	58	42	17	48.6
	Bipolar Disorder	38	11.8	28	20.3	10	28.6
	Depression	76	23.5	45	32.6	16	45.7
Smoking Characteristics							
Number of Cigarettes Smoked Per Day After Pregnant		323	4.1 (2.2)	138	11.4 (2.1)	35	23.6 (5.2)
Motivation to Quit to Smoking	Likert Scale (1-7)	323	6.2 (1.2)	137	5.9 (1.3)	35	5.8 (1.6)
Confidence to Quit Smoking	Likert Scale (1-7)	323	5.5 (1.5)	136	4.8 (1.6)	35	4.4 (2.1)
Fagerstrom Test for Nicotine Dependence	Total Score (1-10)	319	2.1 (1.8)	135	3.6 (1.9)	35	6.8 (1.6)

Figure 2 – Impact of Psychiatric Comorbidities Diagnosis on High Nicotine Addiction Level (FTND ≥ 6)

- 1 Comorbidity vs None — OR= 2.80 (1.23-6.42), P = 0.015
- 2 Comorbidities vs None — OR= 2.90 (1.32-6.35), P = 0.008
- 3 Comorbidities vs None — OR= 7.58 (3.35-17.14), P = <.001

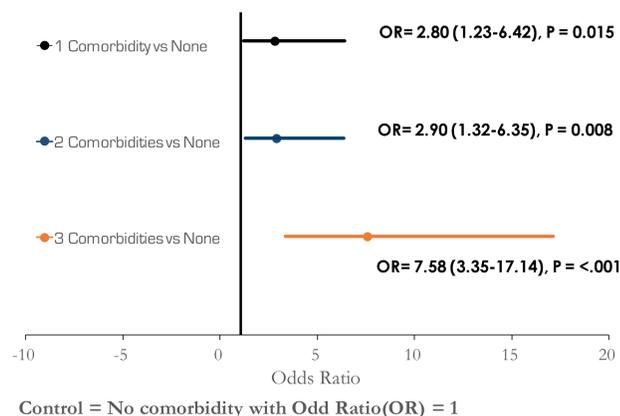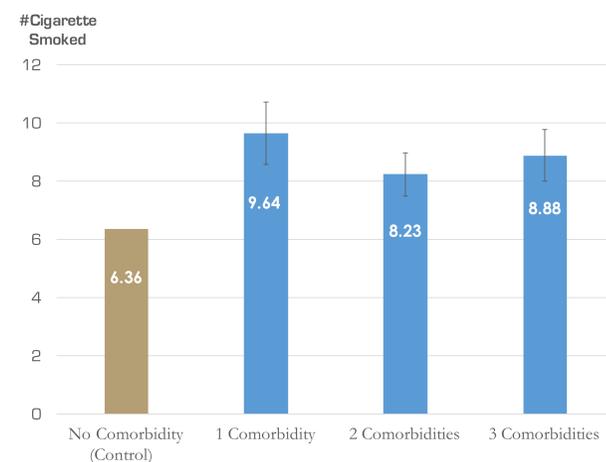Control = No comorbidity with Odd Ratio(OR) = 1

Figure 3 – One-Way ANOVA - Psychiatric Comorbidities and # of Cigarettes Smoked

SUMMARY OF RESULTS

- **Study Sample Characteristics**
  1. Study sample is predominately white pregnant women with a high school diploma, GED or less) and are generally low-income.
  2. Heavy smokers (> 20 cigarettes/day) have lower motivation and confidence to quit compared to light or moderate smokers. They are also more likely to be addicted to nicotine.

- **Multinominal Logistic Regression Analysis (Figure 2)**
  1. The participants are 7.58 times more likely to have an FTND sum score of 6 or higher for three psychiatric diagnoses compared to no psychiatric diagnosis

- **One-way ANOVA (Figure 3)**
  1. Among current smokers, there was a significant difference between groups on number of cigarettes smoked by number of psychiatric comorbidities as determined by one-way ANOVA ($F_{(3, 503)} = 7.789$, p= <0.001).

CONCLUSIONS & FUTURE DIRECTIONS

The current findings of increased rates of psychiatric diagnoses among smokers and nicotine-dependent smokers in the pregnant women population are supported by this study. The intention to stop smoking should be proactively supported among these comorbid pregnant smokers. Upon the conclusion of the Quit4Baby randomized controlled trial, the effectiveness of text messaging interventions on psychiatric comorbid pregnant smokers will be examined.

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CONTACT INFO

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