

# WEIGHT CONCERNS AS A PREDICTOR FOR SMOKING CESSATION IN SMOKERS PARTICIPATING IN A COMMUNITY-BASED CESSATION PROGRAM

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## INTRODUCTION

Concern about weight gain is a barrier to smoking cessation, but it is unclear if weight concerns are predictive of cessation in the context of community-based cessation programs. This has implications for targeting weight concern as a cessation strategy. We analyzed whether having higher weight concerns, using two validated measures, predicted cessation among 392 participants in a community-based cessation program at 7 weeks, 6 months and one year follow up periods.

## METHODS

**Design:** Using mixed effects logistic regression, data from baseline and three follow up periods (7 weeks, 6 months, one year) were analyzed from a cessation trial of 392 adults, randomized to physical activity or general wellness counseling as adjunctive treatment for cigarette smoking. **Measures:** The dependent variable was smoking status (quit or smoking) measured as biochemically verified 7-day point prevalence at each follow up time period. Independent variables included two measures of weight concern: 1. Use of smoking to control weight ("control") and 2. Amount of weight gain before anticipated return to smoking ("intolerance"), using validated instruments. Covariables included body mass index, nicotine dependence using the Fagerström Test, age, and time. **Analyses:** Mixed effects logistic regression models, stratified by sex, were used to determine whether weight concerns were predictive of cessation. Covariables modeled as effect moderators with weight concern (nicotine dependence, time, and race) were examined and removed if insignificant.

## RESULTS

Participants (n = 392) were between 18-65 years of age, 62% female, 67% White, with an average BMI of 28 (standard deviation (SD) = 5.8) and an average nicotine dependence score of 4.9 (SD=2.3) on a scale of 0-10. For the "control" weight concern measure, the average score on a scale from 0-5 was 1.8 (SD = 1.3). For the "intolerance" measure of weight concern, 56% of participants were considered "weight concerned." Among participants measured at each follow up period, the biochemically verified 7-day point prevalence rate was 46% at 7 weeks, 39% at 6 months, and 28% at one year. For females, in both models, weight concerns did not significantly predict quitting smoking. Variables that predicted greater odds of being quit included nicotine dependence (lower), age (higher), and time. For males, in both models, weight concerns did not significantly predict quitting smoking. Variables that predicted greater odds of being quit included nicotine dependence (lower), age (higher) and time. At both 6 months and one year follow up, compared to 7 weeks, males had lower odds of being quit. Race and BMI did not significantly predict quit status in males or in females.

## CONCLUSION

Within this community sample of smokers attempting to quit, weight concerns were not predictive of cessation and therefore may not need to be specifically addressed to increase quit rates. However, weight concerns may impede cessation attempts which could not be evaluated in this sample which volunteered for a cessation program.

Table 1. Descriptive Statistics

Categorical Variables – n (%)	Male	Female	Total Sample	
Race				
White	100 (67%)	161 (66%)	261 (67%)	
Nonwhite	49 (33%)	82 (34%)	131 (33%)	
Weight Concerned (Intolerance)				
Weight concerned	57 (38%)	161 (66%)	218 (56%)	
Not weight concerned	92 (62%)	82 (34%)	174 (44%)	
Smoking Status				
Time 1 (7 weeks)				
Quit	53 (54%)	63 (41%)	116 (46%)	
Smoking	45 (46%)	90 (59%)	136 (54%)	
Missing	51	89	140	
Time 2 (6 months)				
Quit	32 (44%)	50 (37%)	82 (39%)	
Smoking	41 (56%)	85 (63%)	126 (61%)	
Missing	76	108	184	
Time 3 (1 year)				
Quit	34 (29%)	56 (28%)	90 (28%)	
Smoking	85 (71%)	145 (72%)	230 (72%)	
Missing	30	42	72	
Continuous Variables - $\bar{X}$ (SD)	Male	Female	Total	Range
Age (years)	45.1 (10.0)	44.3 (10.1)	44.6 (10.1)	18-64
Body Mass Index	27.7 (5.1)	28.2 (6.3)	28.0 (5.8)	16-50
Weight Concerned (Control)	1.3 (.98)	2.1 (1.1)	1.8 (1.1)	0-6
Nicotine Dependence	5.2 (2.3)	4.7 (2.3)	4.9 (2.3)	0-10

Table 2. Predictors of Cessation – Weight Concerned (Control)

Variables		OR	95%	p
Weight Concerned (Control)	Male	.98	.92-1.06	.67
	Female	1.03	.99-1.08	.18
Race (nonwhite=1, white = 0)	Male	.91	.78-1.06	.23
	Female	1.08	.96-1.22	.21
BMI	Male	1.00	.99-1.02	.29
	Female	1.01	.996-1.02	.29
Nicotine Dependence	Male	.96	.93-.99	.01
	Female	.97	.95-.996	.02
Age	Male	1.01	1.00-1.01	.05
	Female	1.01	1.00-1.01	.01
Time 1 (6 months compared to 7 weeks)	Male	.85	.77-.94	.002
	Female	.96	.90-1.03	.29
Time 2 (1 year compared to 7 weeks)	Male	.82	.75-.89	<.0001
	Female	.91	.85-.99	.02

Table 3. Predictors of Cessation – Weight Concerned (Intolerance)

Variables		OR	95%	p
Weight Concerned (Intolerance)	Male	1.004	.85-1.18	.97
	Female	.998	.89-1.12	.97
Race (nonwhite=1, white = 0)	Male	.91	.78-1.07	.26
	Female	1.07	.95-1.21	.28
BMI	Male	1.00	.99-1.02	.96
	Female	1.01	.997-1.02	.18
Nicotine Dependence	Male	.96	.93-.99	.01
	Female	.97	.95-.997	.03
Age	Male	1.01	1.00-1.01	.05
	Female	1.01	1.00-1.01	.01
Time 1 (6 months compared to 7 weeks)	Male	.85	.77-.94	.002
	Female	.96	.89-1.03	.28
Time 2 (1 year compared to 7 weeks)	Male	.81	.75-.89	<.0001
	Female	.91	.85-.99	.02

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