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Unintended Benefits of a Smoking Cessation Intervention on Latino Fathers' Binge Drinking In Early Postpartum

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Abstract

Background—Research suggests that when smokers reduce their smoking, they also reduce their alcohol consumption.

Purpose—To examine the effects of a smoking cessation intervention and actual quitting smoking on binge drinking behavior among Latino expectant and new fathers.

Methods—Logistic regression models were used to examine the effect of intervention arm and quitting smoking on past 30-day binge drinking measured at 3-months and 12-months postpartum while controlling for known covariates.

Results—Fathers in the intervention arm were significantly more likely to decrease their binge drinking at the 12-month follow-up (OR=0.57, 95% CI=0.35–0.93). Quitting smoking, measured

Ethical approval: "All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards."

by both 7-day and 30-day point prevalence, was positively associated with reduced binge drinking at 3-months (OR=0.25, 95% CI=0.14–0.45; OR=0.44, 95% CI= 0.26–0.75) and 12-months (OR=0.22, 95% CI=0.11–0.42; OR=0.43, 95% CI= 0.24–0.77).

Conclusions—The results of this study support the positive effects of a smoking cessation intervention on decreasing binge drinking behavior among Latino fathers in the postpartum period.

Keywords

Binge drinking; Postpartum; Smoking cessation; Unintended consequences

Introduction

The co-occurrence of substance use, including tobacco and alcohol use, are common among Latino men. Roughly 70% report alcohol use in the past year, and 45% reporting binge drinking (1, 2). Alcohol-related social risks (i.e. family strain and violence) and related health risks (i.e. cancer and liver disease) also remain high (3). With alcohol use comes smoking among many, among Latino men that are current drinkers, 25% of them use tobacco on a daily basis, this number increases to 37% among those men classified as heavy drinkers (1).

The co-occurrence of smoking and alcohol use is multifaceted and may be due to genetic, environmental, behavioral and psychosocial mechanisms (4). Due to the clustering of these behaviors, reductions in one of the behaviors can lead to reductions in the other (1, 5). While not straightforward (6), smoking cessation has been linked to a decrease in alcohol consumption (5). The majority of studies available in the literature have been conducted among treatment-seeking alcohol users rather than those not seeking treatment or those seeking treatment for smoking (5). However, a recent study among non-treatment seeking binge drinkers showed that those who quit smoking reported a decrease in binge drinking (7).

Reductions in co-occurring risk behaviors take multiple pathways. Smoking and alcohol use share similar behavior change pathways (ie. mutual cravings and behavioral triggers), when these cravings and triggers are diminished this may lead to reductions in both behaviors (4). Increased confidence from changing one behavior, such as smoking may also transfer to other behaviors like alcohol use, and lead to reductions (8). Unique to this study, there also may be naturally occurring times, like pregnancy or the birth of a child when reductions of these behaviors also co-occur. Because pregnancy is a teachable moment when Latino fathers may be more inclined to quit smoking (9), they also may be more motivated to reduce their alcohol consumption. Factors related to becoming a parent can serve as motivators to engage in healthy behaviors, yet they are rarely examined among male partners (10). To our knowledge, the effects of a smoking cessation intervention on binge drinking behavior among new Latino fathers have not been examined. We expected that the smoking cessation intervention might affect alcohol use for three reasons. First, smoking and alcohol use share common behavioral pathways. Second, new fatherhood may bring increased motivation to engage in healthy behaviors. Third, that the provided intervention had a significant effect on couples relationship satisfaction (11), which may have decreased stress

(a common behavioral trigger of both smoking and alcohol use). Therefore, the purpose of this study was to examine whether arm effects exist for a cessation intervention on the unintended outcome of binge drinking. We also examine the effects of smoking cessation (regardless of arm allocation) on binge drinking in Latino fathers using data from a smoking cessation randomized controlled trial called the Parejas Trial (12).

Materials and Methods

Study Design

This is a secondary analysis of data from the Parejas Trial, a randomized controlled trial to compare a culturally tailored couples-based intervention plus written materials and free nicotine replacement therapy (NRT) to a minimal intervention (self-help smoking guides and NRT only) in promoting smoking cessation among Latino fathers during pregnancy and postpartum from 2010–2013 (see Pollak et al., 2014 for full study details) (12). This study was approved by the Duke University School of Medicine Institutional Review Board. Pregnant Latinas and their male partners were recruited from 10 clinics in North Carolina. Eligibility criteria for Latina women included being at least 16 years of age, between 13 and 29 weeks gestation and not smoking. Eligibility criteria for their male partners included being at least 16 years of age, having smoked at least 100 cigarettes in their lifetime, and having smoked in the last 30 days. Data was collected at baseline, 3-months postpartum, and 12-months post-randomization. All 348 Latino fathers randomized into the trial were used in the current analyses.

Intervention

Men were randomized to the minimal intervention arm or the couples-based intervention. Those randomized to the minimal intervention arm received a booklet, *No lo deje para mañana, deje de fumar hoy: Guía para Dejar de Fumar (Don't leave it for tomorrow, quit today: Guide to quitting smoking)*, and were offered free NRT for a period of 6 weeks. Men randomized to the couples-based intervention arm also received the booklet, free NRT for 6 weeks, three counseling sessions during pregnancy, and three sessions postpartum (one face-to-face and two over the phone). The face-to-face counseling sessions occurred in the client's home and lasted two hours. The first part of the session consisted of a PowerPoint slide show that focused on the emotions surrounding the family (including pride, protectiveness, and responsibility) and the second part of the session consisted of a discussion about the health effects of smoking. The male counselor worked with the man to build motivation and set goals around quitting smoking, and the female counselor worked with the woman to promote healthy eating and activity goals. Counselors also worked with the couples to implement effective communication skills to help each other reach their goals. The additional phone counseling sessions with men lasted approximately 15 minutes and focused on reviewing progress towards smoking cessation and practicing couple's communication skills.

Measures

Binge drinking in the past 30 days, the main outcome of this analysis, was measured by the following questions: First, drinking status was determined by asking the men, "During the

past 30 days, on or about how many days a week did you drink alcoholic beverages?” Those men that drank one or more days a week were then asked, “Consider a drink to be a can or bottle of beer, a 4-ounce glass of wine, or one cocktail containing 1-ounce of liquor. On average, when you drink alcoholic beverages how many drinks do you have each day?” Those men who answered 5 or more drinks a day were considered to be binge drinkers (13).

Because many of our smokers were non-daily smokers, we assessed smoking cessation with 7-day point prevalence abstinence and 30-day point-prevalence abstinence at 3-months postpartum and 12-month post-enrollment randomization. Self-report smoking data were biochemically confirmed using saliva samples for 7-day point prevalence data only. To assess smoking cessation, saliva samples were analyzed for the presence of cotinine and a cut off of 16 ng/ml was used to discriminate abstainers and smokers.

Analysis

The primary objectives of this analysis were to examine the effect of a smoking cessation intervention (couples counseling vs. written self-help material) and 7-day and 30-day point prevalence cessation at 3-month postpartum and 12-months post-randomization on binge drinking at 3-month postpartum and 12-months post-randomization. We used the last observation carried forward (LOCF) imputation approach to impute missing data on binge drinking at each follow-up. Baseline covariates known to be related to binge drinking were covariates: binge [yes/no], perceived financial burden [money to pay bills with extra vs. hard to pay bills], smoking status [daily vs non-daily smoker], and perceived stress [0–21], and acculturation [3–15] (14–18). Logistic regression models were used to estimate all six effects, using the five covariates listed above; these covariates were not assessed for significance. Covariate adjusted odds ratios (OR) are presented with 95% confidence intervals (CI). Sensitivity analyses were performed by (1) using only patients with complete data and (2) using the LOCF dataset but with the 29 men with no follow-up removed. Chi-square and t-test statistics were used to assess differences for 3-month and 12-month lost-to-follow. Analyses were performed using SAS software version 9.2. (SAS Institute, Inc.).

Results

Sample Characteristics

The distributions of the demographic and substance use variables for the 348 Latino men randomized into the Parejas trial are presented in Table 1. Follow-up rates were 82% at 3-month postpartum and 81% at 12-month post-randomization. We found no arm differences in smoking cessation, our primary outcome.

Intervention Effects and Effects of Smoking Cessation on Binge Drinking

The associations of binge drinking at the 3-month postpartum and 12-month post-randomization follow-ups with both intervention arm and smoking cessation (as defined as both 7-day and 30-day point prevalence) are given in Table 2. Using the Holm procedure for controlling the alpha level of these 6 tests, only the intervention effect at 3-months was not statistically significant. At the 12-month follow-up, the odds of binge drinking were 0.57 times smaller for those in the intervention arm compared to the control arm (OR: 0.57, 95%

CI: 0.35–0.93). Arm was not associated with binge drinking at 3-month postpartum (OR: 0.83, 95%CI: 0.52–1.35). In terms of 7-day smoking point prevalence, the odds of binge drinking were 0.25 times smaller for those who quit compared to non-quitters (OR: 0.25, 95% CI: 0.14–0.45). For 12-month post-enrollment, the odds of binge drinking were 0.44 times smaller for those who quit smoking compared to non-quitters (OR: 0.44, 95% CI: 0.26–0.75). Similar effects were found for 30-day smoking point prevalence and binge drinking at 3-month postpartum and 12 month (Table 2). Crude rates support the findings above, data reported in Table 2. We performed sensitivity analyses by repeating the above six analyses on complete data (N=267) and on imputed data with 29 men with no follow-up data removed. Despite the fact that binge drinking at baseline was associated with lost to follow-up ($p = 0.004$) (i.e., the proportion of men lost to follow-up at any time was 25% in baseline binge drinkers and 12% in those who did not binge drink), the results of the sensitivity analyses were very similar to those given above. For complete data (N=267) and on imputed data (N=319), the odds ratio that men in the intervention arm (couples-counseling) reported binge drinking was 0.56 (95% CI: 0.31–0.98, $p=0.04$) and 0.48 (95% CI: 0.29–0.80, $p=0.005$) in the control arm (written self-help material). Arm was not associated with binge drinking at 3-month postpartum for complete data or imputed data ($p = 0.20$). Similar results were found for 7-day and 30-day smoking point prevalence as those reported in Table 2 (data not presented). As for missing data, alcohol use in the past 30 days at baseline was associated with lost to follow-up for 3-month (92% vs. 81%, $p=0.04$) and 12-month (93% vs. 81%, $p=0.02$) with men who reported drinking being lost to follow-up. None of the other baseline measures were associated with lost to follow-up (0.12 $p = 0.96$). When we tried a different imputation method using propensity scoring, the results did not change. Thus, we report the more conservative method of treating all missing data as indicating smoking.

For the sensitivity analysis, we used the method of Mitra and Reiter (19) to include propensity score as a covariate in the test of the association of binge drinking at 3 months with smoking at 3 months. The results were very similar to those presented in Table 2. That is, while the original OR was 28 (95% CI: 0.14–0.55, $p=0.0002$), the propensity score adjusted OR was 0.25 (95% C: 0.14 – 0.045, $p < 0.0001$). Since it is highly unlikely that the results of the other three statistical tests with non-randomized smoking status will change under a propensity score covariate, the results for these tests were not calculated.

Discussion

The results of this analysis confirmed our hypothesis that a smoking cessation intervention provided to Latino fathers has secondary effects on decreasing binge drinking postpartum. Men who received the couples-based intervention were less likely to report binge drinking at 12-months compared to those in the control arm, and men who quit smoking reported less binge drinking at both 3-months and 12-month post-randomization compared to non-quitters.

These findings are noteworthy given that in the main study, there were no arm differences in smoking cessation reported at 12-months post-enrollment (12). The lower odds of binge drinking in the intervention arm may be due to multiple reasons. Pregnancy might be a

teachable moment for fathers, motivating them to not only quit smoking but also reduce their drinking. The intervention addressed the direct effect that paternal smoking has on the pregnant woman and the fetus. Second hand smoke clearly cross the placenta and can harm the baby. But when fathers drink, there is no direct negative effect on the woman or baby. Thus, it is interesting that there might have been an overall impetus to improve health and the health of the father, not just the health of the baby. Elements of the intervention emphasized *familismo* and the notion that the father wants to be around for significant events in his new baby's life. Men might have been thinking about how alcohol use could impair their ability to provide the best care for their new family. Finally, the smoking cessation intervention focused on common behavior change pathways such as increasing motivation and goal setting, knowledge of these behavior change techniques could easily translate over to other behaviors (ie. alcohol use).

Interestingly, the intervention did not have a significant effect on smoking. Men in both arms quit at very high rates suggesting that new fatherhood may prompt smoking cessation regardless of intervention type. This might have been because most of the men were non-daily smokers. For them, quitting likely was easier than for every day smokers. Yet, we found arm differences in reducing alcohol consumption at 12-month follow-up. The nature of the couples-based intervention was high in intensity and included a couple's communication component. The intervention did have a significant effect on couples satisfaction (11). It could be that once couples started communicating better and relationship satisfaction increased, they were able to address his alcohol behavior, which might have been a concern for the women. The improved communication and satisfaction also could have reduced stress in the family, and stress is a known trigger for alcohol use (18), particularly interpersonal stress (20). Further, the increased relationship satisfaction as a result of the couples-based intervention might have further increased men's motivations and self-efficacy to engage in healthy behaviors for the sake of their families (21). The immediate postpartum period is a stressful time and developing communication skills and increasing satisfaction in a relationship are things that develop over time which may explain the delayed effect on binge drinking.

Smoking cessation regardless of intervention type was associated with decreased binge drinking. These results are consistent with research by Stahre and colleagues as well as similar research in treatment seeking alcohol users (5, 7). These findings may be the result of smoking and alcohol use sharing many common triggers which may have been avoided by these men, resulting in a decrease in alcohol use as well as the many common coping mechanisms that may have been put in place and also used to abstain from both substances. It is also possible that men decided to reduce their drinking to help them quit smoking.

Limitations of this analysis include the definition used for binge drinking in this study, which did not take quantity (blood alcohol level) or duration of drinking in to consideration (22) and the reliance on self-report binge drinking behavior and self-report 30-day point prevalence smoking data. The definition used for binge drinking may not have accounted for all types of alcohol use and participants may have had difficulty recalling actual drink size. Self-report data by nature may underestimate the actual prevalence of both of these behaviors. Data on smoking and drinking were assessed simultaneously, making it

impossible to infer causation between the two. Thus, both of these measures may have been inflated by social desirability, which is more common among Latinos(23). This analysis included only Spanish speakers with the majority originating from Mexico; thus, our findings might not generalize to English-speaking Latinos or those from other countries.

In conclusion, the results of this study support the positive secondary effects of a smoking cessation intervention and smoking cessation alone on decreasing binge drinking among Latino fathers. Clinicians should assess for possible reductions in alcohol use when patients report smoking cessation due to the shared behavioral pathways. They should also notice these “praise opportunities” and use them to reinforce patients for making other behavior changes. Intervening on certain shared behavioral pathways of smoking and alcohol use should also be examined to determine if there are certain intervention components that can address these commonalities most effectively. Finally, future research may consider that a multiple behavior approach may be more effective in addressing co-occurring risk behaviors, during the teachable moment of new fatherhood, which brings increased motivation to engage in healthy behaviors.

References

1. Falk DE, Yi H, Hiller-Sturmhofel S. An epidemiologic analysis of co-occurring alcohol and tobacco use and disorders. *Alcohol Res Health*. 2006; 29(3):162–171. [PubMed: 17373404]
2. Naimi TS, Brewer RD, Mokdad A, Denny C, Serdula MK, Marks JS. Binge drinking among us adults. *JAMA*. 2003; 289(1):70–75. [PubMed: 12503979]
3. Chartier K, Vaeth PAC, Caetano R. Focus on: Ethnicity and the social and health harms from drinking. *Alcohol Research: Current Reviews*. 2008; 35(2):229–337.
4. Drobos D. Concurrent alcohol and tobacco dependence. *Alcohol Res Health*. 2002; 26:136–42.
5. Prochaska JJ, Delucchi K, Hall SM. A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. *J Consult Clin Psychol*. 2004; 72(6):1144–56. [PubMed: 15612860]
6. Joseph AM, Willenbring ML, Nugent SM, Nelson DB. A randomized trial of concurrent versus delayed smoking intervention for patients in alcohol dependence treatment. *J Stud Alcohol*. 2004; 65(6):681–91. [PubMed: 15700504]
7. Stahre MA, Toomey TL, Erickson DJ, Forster JL, Okuyemi KS, Ahluwalia JS. The effects of a tobacco intervention on binge drinking among African American light smokers. *Journal of Addictive Diseases*. 2013; 32(4):377–386. [PubMed: 24325771]
8. Prochaska JJ, Spring B, Nigg CR. Multiple health behavior change research: an introduction and overview. *Prev Med*. 2008; 46(3):181–8. [PubMed: 18319098]
9. Pollak KI, Denman S, Gordon KC, Lyna P, Rocha P, Brouwer RN, et al. Is pregnancy a teachable moment for smoking cessation among US Latino expectant fathers? A pilot study. *Ethnicity & health*. 2010; 15(1):47–59. [PubMed: 20013439]
10. Everett KD, Bullock L, Longo DR, Gage J, Madsen R. Men’s tobacco and alcohol use during and after pregnancy. *American Journal of Men’s Health*. 2007; 1(4):317–325.
11. Gordon KC, Roberson PNE, Hughes JA, Khaddouma A, Swamy GK, Noonan D, et al. The effects of a communication skills training intervention during pregnancy on Latino couples’ dyadic satisfaction postpartum. 2015 Unpublished data.
12. Pollak KI, Lyna P, Bilheimer AK, Gordon KC, Peterson B, Gao X, et al. Efficacy of a couple-based randomized controlled trial to help Latino fathers quit smoking during pregnancy and postpartum: The Parejas Trial. *Cancer Epidemiology Biomarkers & Prevention*. 2015; 24(2):397–385.
13. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Questionnaire. 2010. <http://www.cdc.gov/brfss/questionnaires/pdf-ques/2011brfss.pdf>
14. Auld MC. Smoking, Drinking, and Income. *Journal of Human Resources*. 2005; 2:505–518.

15. Dawson DA, Grant BF, Ruan WJ. The association between stress and drinking: modifying effects of gender and vulnerability. *Alcohol and Alcoholism*. 2005; 40(5):453–460. [PubMed: 15972275]
16. King AC, Epstein AM. Alcohol dose-dependent increases in smoking urge in light smokers. *Alcohol Clin Exp Res*. 2005; 29(4):547–52. [PubMed: 15834219]
17. Karriker-Jaffe KJ, Zemore SE. Associations between acculturation and alcohol consumption of Latino men in the United States. *Journal of Studies on Alcohol and Drugs*. 2009; 70(1):27. [PubMed: 19118388]
18. Mulia N, Ye Y, Zemore SE, Greenfield TK. Social disadvantage, stress, and alcohol use among black, Hispanic, and white Americans: findings from the 2005 US National Alcohol Survey. *Journal of Studies on Alcohol and Drugs*. 2008; 69(6):824. [PubMed: 18925340]
19. Mitra R, Reiter JP. A comparison of two methods of estimating propensity scores after multiple imputation. *Statistical Methods in Medical Research*. 2012; 0(0):1–17.
20. Witkiewitz K, Marlatt GA. Emphasis on interpersonal factors in a dynamic model of relapse. *Am Psychol*. 2005; 60(4):341–2. [PubMed: 15943533]
21. Khaddouma A, Gordon KC, Fish LJ, Bilheimer A, Gonzalez A, Pollak KI. Relationships Among Spousal Communication, Self-Efficacy, and Motivation Among Expectant Latino Fathers Who Smoke. *Health Psychology*. 2015 In Press.
22. National Institute of Alcohol Abuse and Alcoholism. [Access verified on February 17, 2015] National Institute of Alcohol Abuse and Alcoholism council approves definition of binge drinking. NIAAA Newsletter. 2004. Available at http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.htm
23. Davis RE, Resnicow K, Couper MP. Survey response styles, acculturation, and culture among a sample of Mexican American adults. *J Cross Cult Psychol*. 2011; 42(7):1219–1236. [PubMed: 21927503]

Table 1

Demographics and Substance Use Data

Characteristics	Total N=348	Materials and Counseling N= 173	Materials Only N=175
<i>Demographics</i>	Mean (SD)/Percent	Mean (SD)/Percent	Mean (SD)/Percent
Age	30 (6)	30 (6)	29 (5)
Race	(N=6 missing) ^a	(N=5 missing)	(N=1 missing)
White	49	47	50
More than one race	46	47	45
Other ^b	5	6	5
Monthly income	(N=13 missing)	(N=9 missing)	(N=4 missing)
\$500	22	24	20
\$501–\$1000	32	26	37
\$1001–\$1,500	25	25	25
\$1501	21	24	18
Perceived financial burden	(N=1 missing)		(N=1 missing)
Enough money for special things	5	6	3
Enough money to pay bill but little spare money	42	42	42
Pay the bills but cut back on things	15	13	18
Difficulty paying the bills	38	40	36
Education	(N=1 missing)		(N=1 missing)
<9 th grade	66	63	68
Country of origin	(N=1 missing)		(N=1 missing)
Mexico	78	76	79
Length of stay in US			
>3 years	94	93	94
<i>Smoking Variables</i>			
Days smoked in past 30 days (range 1–30)	18 (11)	19 (11)	18 (12)
Cigarettes smoked (range 1–20)	5 (4)	5 (5)	5 (4)
Daily smoker	39	40	37
<i>Alcohol use</i>			
Alcohol use in the past 30 days			
None	17	20	13
< once a week	26	29	22
One day a week	36	32	39
Two days a week	12	8	17
3 days a week	10	10	10
Binge Drinker	51	51	49
<i>Related Variables</i>			
Perceived stress (range 0–42)	7 (5)	7 (6)	6 (5)
Acculturation (range 3–15)	7 (2)	7 (2)	7 (2)

^aMissing are not used in the calculation of the percentage reported.

^b Other race consists of 2 Blacks, 5 American Indian or Alaskan Native and 7 reported as other.

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Table 2

Crude rates^a and Adjusted^b Odds Ratios and 95% Confidence Interval for self-report of binge drinking^c at 3-month postpartum and 12-month post-randomization (N=348)

Predictor±	Outcome Variable							
	Binge Drinking at 3-months				Binge drinking at 12 months			
	Crude Rate	OR	95% CI	p-value	Crude Rate	OR	95% CI	p-value
Arm								
Material only +Counseling	40	0.83	0.52–1.35	0.46	36	0.57	0.35–0.93	0.02 ^d
Material only	45	ref			48	ref		
Cessation								
Past 7 days								
Quitter	28	0.25	0.14–0.45	<0.0001 ^d	33	0.44	0.26–0.75	0.003 ^d
Smoker	50	ref			48	ref		
Past 30 days								
Quitter	23	0.22	0.11–0.42	<0.0001 ^d	31	0.43	0.24–0.77	0.01 ^d
Smoker	48	ref			47	ref		

Footnote: OR=Odds Ratios and 95% CI= 95% Confidence Interval

^aUnadjusted crude rates for self-report of binge drinking for predictors.

^bModels adjusted for baseline self-report of binge drinking, perceived financial burden, smoking status (daily vs non-daily smoker), perceived stress and acculturation.

^cCoding: Binge drinking (yes=1/no=0), arm (counseling=1/control=0) and cessation (yes=1 /no=0).

^dStatistically significant using the Holm procedure to control the family-wise alpha level of the 6 tests at two-sided 0.05.