

Exploring the role of sex differences in the relationship between sex partner attitudes and current quit attempt among a sample of smokers

Melissa Davey-Rothwell¹, Norah L. Crossnohere^{1,2}, Paige Hammond³, Tuo-Yen Tseng¹, Marlesha Whittington¹, Karin Tobin¹, Carl Latkin¹, Amy Knowlton¹

ABSTRACT

INTRODUCTION Limited research has explored sex differences in the relationship between partner support and smoking cessation among minority low-income population. Further, scarce attention has been given to the influence of partners who are not married. The purpose of this study is to examine the relationship between negative and positive social support provided by partners and smoking cessation among men and women smokers.

METHODS Data were collected as part of the Tobacco Use in Drug Environment (TIDE) study, a cross-sectional study conducted in Baltimore, Maryland, from September 2013 to May 2015. Interviews were administered with current smokers. The sample size for the current analysis was 134 men and 86 women.

RESULTS Approximately 33% of male participants (n=45) reported currently trying to quit smoking cigarettes and 29% of women were currently trying to quit. Having a sex partner who did not mind the participant's smoking was associated with decreased odds of trying to quit among men (AOR=0.35; 95% CI: 0.13–0.91, p=0.03). Having a sex partner who expressed concern about the participant's smoking (AOR=12.9; 95% CI: 3.49–47.0, p<0.01) and having a sex partner who encouraged the participant to quit smoking was significantly associated with current quit attempt among women. In supplementary analyses, we found that each type of partner support varied based on the type of partner – committed or casual.

CONCLUSIONS Understanding sex-partner support regarding smoking and their relationship to smoking cessation activities may provide insights for future tailored cessation interventions.

AFFILIATION

1 Department of Health, Behavior and Society, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, Baltimore, United States

2 Department of Biomedical Informatics, College of Medicine, The Ohio State University, Columbus, United States

3 The Institute for Innovation & Implementation, School of Social Work, University of Maryland, Baltimore, United States

CORRESPONDENCE TO

Melissa Davey-Rothwell, Department of Health, Behavior and Society, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, 2213 McElderry Street M227, Baltimore, MD 21205, United States. E-mail: mdavey29@gmail.com ORCID ID: <https://orcid.org/0000-0002-8483-9297>

KEYWORDS

attitudes, sex differences, quit attempts, partners, social support

Received: 25 March 2021

Revised: 29 May 2021

Accepted: 14 June 2021

INTRODUCTION

While tobacco smoking prevalence has declined in the US over the past fifty years, certain populations, including low-income and African American smokers, continue to face high morbidity and mortality rates

from smoking-related diseases and significant barriers to smoking cessation^{1,2}. Further, African American smokers are less likely to successfully quit smoking compared to other groups despite making more attempts at cessation¹. African American communities

are also disproportionately targeted by tobacco companies in advertising campaigns, which may inhibit cessation efforts³. In addition, normative high levels of smoking in some low-income communities may further compromise cessation efforts⁴⁻⁶. Consequently, low-income African Americans experience multiple socio-environmental factors promoting smoking and impeding their smoking cessation despite having similar (or greater) intention to quit than other groups⁷. Given these racial and economic disparities, it is critical to have a greater understanding of factors that influence smoking behaviors among low-income minority populations.

Partner behavior and support have been shown to influence smoking behaviors and cessation^{8,9}. Specifically, partners' supportive behaviors are associated with cessation, while negative behaviors, such as nagging the smoker and complaining about smoking, are predictive of relapse¹⁰. Some research has shown that partner support increases and wanes depending on whether or not the smoker makes small successes in their attempt to quit smoking⁸. Interventions that enhance partner support have potential to increase cessation efforts¹⁰⁻¹². However, these interventions have mixed effects for men and women¹³. Carlson et al.¹⁴ found that smoking cessation increases with social support. However, this association decreases over time for women¹⁴.

The majority of studies that focused on partner support and smoking cessation have focused on married or cohabitating couples¹⁵⁻¹⁸. Less attention has been given to the influence of short-term or casual partnerships on smoking cessation. Type of partnerships may influence quitting attempts in different ways. Partners in committed or married relationships may be more invested in their partner quitting because they have a stronger interest in their partner's health or want less exposure to secondhand smoke. Casual partners may be indifferent or not bothered by their partner's smoking because they are not around this partner often. This study looks at the different ways partner support impacts smoking cessation among both committed and casual partnerships.

The current study focuses on a population with low rates of marriage and non-marital partners which may have a different impact on smoking behaviors compared to spouses. Specifically, we

explored positive and negative aspects of social support, encouragement to quit, concerns about smoking, and not minding that the partner smokes. We hypothesized: 1) participants whose partner did not mind their smoking would be associated with decreased likelihood of quit attempt; 2) having a participant who was concerned about smoking would be associated with increased likelihood of current quit attempt; and 3) getting partner encouragement for cessation would be associated with increased quit attempt. We also conducted a supplementary analysis to compare the partner support/quit attempt relationships between participants in committed relationships to those in casual relationships. Understanding sex-partner attitudes regarding smoking and their relationship to smoking cessation activities may provide insights for future cessation interventions.

METHODS

Study procedures

Data were collected as part of the Tobacco Use in Drug Environment (TIDE) study, a cross-sectional study conducted in Baltimore, Maryland, from September 2013 to May 2015. Recruitment occurred via street outreach, posted advertisements, and word of mouth. Interested individuals participated in a brief screening assessment, either face-to-face or by phone. Eligibility requirements for the parent study included: 1) aged ≥ 18 years, and 2) self-reported smoked cigarettes in the past week and commutatively over 100 cigarettes in the lifetime. Interviews took place at a community-based research center. Participants who met the following criteria were excluded from the study: 1) reported more than 1 sexual partner in the past 6 months or 2) reported no sexual partners in the past 6 months.

After verbal consent, surveys were administered by trained interviewers using Computer-Assisted Personal Interviewing. The baseline included a behavioral survey and a social network inventory. Participants received a once-off gift of \$35.00. The TIDE study was approved by the Johns Hopkins Institutional Bloomberg School of Public Health Review Board. The current study is a secondary analysis of this cross-sectional study and limited to participants who: 1) completed the social network survey, and 2) reported one sexual partner in the past 6 months.

Measures

Current quit attempt

Participants were asked if they were currently trying to quit smoking. Participants were informed that quitting cigarettes meant not smoking for at least 24 hours continuously. Response options were 'yes' or 'no'.

Sex partner variables

Participants were asked to provide the first names of people in their social network who they had sex with in the past 6 months. Participants were then asked which partners had, in the past six months: 1) smoked cigarettes, 2) encouraged the participant to quit smoking, 3) were concerned about the participant's smoking, and 4) did not mind the participant smoking. The responses were dichotomized (yes/no) and categorized by social relationships (i.e. sex partners and relatives) who exhibited each behavior. The current study sample was limited to those participants who reported one sex partner because it would have been unfeasible to disentangle attitudes of multiple sex partners, especially if attitudes were discrepant. All network members' attitudes and support variables were dichotomous (e.g. sex partner encouraged participant to quit vs sex partner did not encourage participant to quit). We also asked participants to report their relationship status which was categorized into partnership type: married/committed relationship versus casual (single, divorced, or widowed).

Smoking burden

A Heaviness of Smoking Index (HSI) variable to measure nicotine dependence was generated based on responses to: 1) how soon the participant smokes their first cigarette after waking, and 2) how many cigarettes the participant smokes daily¹⁹. Responses to these questions were categorized from 0–3. Responses to the two questions were then summed to obtain a score ranging from 0–6 reflecting mild–severe nicotine dependence.

Demographic variables

Demographic variables included in the analyses were sex (male vs female), employment status (unemployed vs employed), cocaine use (reported use in past six months vs no reported use in the past six months), frequency of alcohol consumption (consumes alcohol more than twice a week vs less than twice a week).

Statistical analysis

We conducted bivariate analyses of social network variables and smoking using chi-squared tests to examine potential unadjusted relationships. These analyses were performed for both the entire sample and then stratified by gender (male vs female). Those missing data on nicotine dependence were excluded.

Demographic characteristics were examined through chi-squared tests and t-tests to identify potential confounding variables. Measures that were at least marginally significant ($p=0.10$) were retained in the multivariate analyses. Multivariate logistic regression models were then employed to examine the associations of sex partner's attitudes toward respondent's smoking with the outcome of currently trying to quit, controlling for respondent's demographic characteristics and sex partner's smoking status:

Model 1 – examined the association of having a sex partner who *did not mind the participant's smoking* with the likelihood of a current quit attempt, adjusting for demographic variables and the smoking status of the sex partner.

Model 2 – examined the association of having a sex partner who *is concerned about the participant's smoking* with the likelihood of a current quit attempt, adjusting for demographic variables and the smoking status of the sex partner.

Model 3 – examined the association of a sex partner who *encourages the participant to quit* with the likelihood of a current quit attempt, adjusting for demographic variables and the smoking status of the sex partner.

RESULTS

There were 418 of participants who completed the social network survey, among which 140 individuals reporting no sex partners and 42 reporting multiple sex partners. These individuals were excluded from the study. There were 236 individuals who reported one sex partner in the past six months. Individuals missing data on the HSI were also removed ($n=16$) from this sample of people who had one sex partner. The total size of the final sample was 220 (134 men and 86 women). Variables that were significant in bivariate analyses and adjusted for in current modeling included: HSI, unemployment, alcohol consumption, and cocaine use.

As shown in Table 1, 33.6% (n=45) of men were trying to quit smoking. Unemployed men were more likely to report that they were not trying to quit smoking (91% vs 60%, p<0.01). Men who were currently trying to quit smoking had a lower HSI score (2.44 vs 2.98). There was no significant relationship between current quit attempt and partner support variables among men in the unadjusted analyses.

Twenty-nine percent (n=25) of women reported that they were trying to quit smoking. Women who used cocaine were more likely to report a current quit attempt (32.0% vs 11.5%, p<0.05). Women were more likely to report a current quit attempt if they had a partner who was concerned about their smoking (p<0.01), or if their partner encouraged them to quit smoking (p<0.01).

Table 1. Comparison of demographics and sex partner characteristics among people who are currently trying to quit smoking and those who are not, stratified by sex (N=220)

Characteristics	Males					Females				
	Total (n=134)	Not currently quitting (n=89)	Currently quitting (n=45)	Test statistic	p	Total (n=86)	Not currently quitting (n=61)	Currently quitting (n=25)	Test statistic	p
Demographics										
Aged ≥50 years	62 (46.3)	38 (42.7)	33 (53.3)	1.21	0.27	37 (43.0)	26 (44.0)	11 (44.0)	0.14	0.91
Has HS Diploma/GED or higher	90 (67.2)	60 (67.4)	30 (66.7)	0.02	0.9	40 (46.5)	29 (47.5)	11 (44.0)	0.09	0.77
Income >US\$10000 per year	44 (33.3)	30 (33.7)	14 (32.6)	0.01	0.9	15 (17.64)	10 (16.7)	5 (20.0)	0.13	0.71
Homeless in the past 6 months	21 (15.7)	11 (12.3)	10 (22.2)	2.28	0.13	6 (6.98)	6 (9.84)	0 (0.00)	2.64	0.1
Living with HIV	17 (13.2)	12 (13.9)	5 (11.6)	0.13	0.71	16 (18.6)	10 (16.4)	6 (24.0)	0.68	0.41
Black/African American	117 (87.3)	78 (87.6)	39 (86.7)	0.03	0.85	79 (91.9)	54 (88.5)	25 (100)	3.12	0.08
Unemployed in the past 6 months	108 (80.6)	81 (91.0)	27 (60.0)	18.67	<0.01*	72 (83.7)	49 (80.3)	23 (92.0)	1.77	0.18
Alcohol consumption multiple times per week	40 (29.9)	22 (24.7)	18 (40.0)	3.48	0.06	19 (22.1)	11 (18.0)	8 (32.0)	2.01	0.16
Marijuana use in past 6 months	54 (40.3)	33 (37.1)	21 (46.7)	1.25	0.26	28 (32.6)	18 (29.5)	10 (40.0)	0.09	0.35
Crack use in past 6 months	40 (29.9)	24 (26.9)	16 (35.6)	1.14	0.29	34 (39.5)	23 (37.7)	11 (44.0)	0.29	0.59
Cocaine use in past 6 months	29 (21.6)	20 (22.5)	9 (20.0)	0.09	0.77	15 (17.4)*	7 (11.5)	8 (32.0)	5.19	0.02*
Heaviness of Smoking Index score	2.80 ± 1.40	2.98 ± 1.25	2.44 ± 1.62	2.12	0.03*	2.93 ± 1.39	2.97 ± 2.63	2.84 ± 2.18	0.38	0.70
Married/committed relationship	52 (28.5)	34 (37.8)	18 (40.0)	0.06	0.80	45 (52.3)	32 (57.3)	13 (52.0)	0.01	0.97
Sex partner characteristics										
Sex partner smokes	81 (60.4)	55 (61.7)	45 (57.8)	0.14	0.71	61 (79.1)	40 (65.5)	21 (84.0)	2.92	0.09
Sex partner is concerned about their partner's smoking	46 (34.0)	30 (33.7)	16 (35.6)	0.07	0.8	33 (38.3)	15 (24.5)	18 (72.0)	0.07	<0.01*
Sex partner encouraged partner to quit smoking	38 (28.4)	21 (23.3)	17 (37.8)	2.09	0.08	31 (36.0)	14 (22.9)	17 (25.0)	15.6	<0.01*
Sex partner does not mind partner's smoking	75 (55.9)	55 (61.1)	25 (44.4)	3.38	0.07	55 (63.9)	40 (65.5)	15 (0.60)	0.24	0.63

Numbers are frequencies and percentages or mean ± standard deviation. *Significant at 0.05 level.

Table 2. Multivariate models of the association between sex partner characteristics and currently quitting smoking, stratified by sex

Variables	Men (n=134)			Women (n=86)		
	AOR	p	95% CI	AOR	p	95% CI
Model 1						
Unemployed	0.14	<0.01*	0.05–0.38	2.81	0.25	0.49–16.2
Alcohol consumption multiple times per week	2.71	0.03*	1.13–6.53	2.15	0.20	0.66–7.02
Cocaine use past 6 months	1.20	0.72	0.44–3.26	4.11	0.03*	1.16–14.6
Heaviness of Smoking Index score	0.76	0.07	0.56–1.02	1.02	0.13	0.71–1.49
Sex partner smoking status	1.07	0.88	0.42–2.76	3.53	0.08	0.87–14.4
Sex partner who doesn't mind participant's smoking	0.35	0.03*	0.13–0.91	0.49	0.23	0.16–1.54
Model 2						
Unemployed	0.14	<0.01*	0.05–0.38	4.78	0.10	0.77–30.0
Alcohol consumption multiple times per week	2.36	0.04*	1.01–5.50	1.84	0.39	0.45–7.43
Cocaine use past 6 months	1.05	0.91	0.39–2.85	2.77	0.18	0.62–12.4
Heaviness of Smoking Index score	0.78	0.10	0.58–1.05	0.80	0.33	0.52–1.25
Sex partner smoking status	0.64	0.31	0.28–1.51	4.06	0.07*	0.86–19.1
Sex partner who is concerned about participant's smoking	0.96	0.93	0.40–2.30	12.9	<0.01*	3.49–47.9
Model 3						
Unemployed	0.16	<0.01*	0.05–0.44	2.11	0.40	0.37–11.2
Alcohol consumption multiple times per week	2.60	0.03*	1.09–6.19	3.28	0.09	0.83–12.9
Cocaine use past 6 months	1.23	0.68	0.45–3.41	5.96	0.21*	1.30–27.3
Heaviness of Smoking Index score	0.77	0.09	0.57–1.03	0.93	0.69	0.62–1.37
Sex partner smoking status	0.75	0.49	0.32–1.73	3.11	0.14	0.69–14.1
Sex partner who encourages participant to quit smoking	2.06	0.14	0.82–5.20	10.8	<0.01*	3.10–37.6

*Significant at 0.05 level. AOR: adjusted odds ratio.

Multivariate analyses

Controlling for sociodemographic variables and sex partner smoking status, having a sex partner who did not mind the participant's smoking was associated with decreased odds of currently trying to quit among men (AOR=0.35; 95% CI: 0.13–0.91, p=0.03). Having a sex partner who expressed concern about the participant's smoking was significantly associated with currently trying to quit among female smokers (AOR=12.9; 95% CI: 3.49–47.0, p<0.01) but not among men. Finally, having a sex partner who encouraged the participant to quit smoking was significantly associated with odds of currently trying to quit smoking among women (AOR=10.8; 95% CI: 3.10–37.6, p<0.01).

Supplementary analysis

We conducted a supplementary analysis to look at partner support and current quit attempt among participants in a committed relationship or casual

relationship. Approximately 39% (n=52) of men reported being in a committed relationship while 52% (n=45) of women were in a committed relationship. Men in a committed relationship were less likely to have a current quit attempt if their partner did not mind their smoking (AOR=0.19; 95% CI: 0.05–0.83, p=0.03). However, men who were in a casual relationship were more likely to report a current quit attempt if their partner was concerned about their smoking (AOR=2.99; 95% CI: 1.42–6.31, p<0.00) or encouraged them to quit (AOR=5.64; 95% CI: 2.54–12.5, p<0.00).

Women who were in a casual relationship were less likely to try quitting if their partner did not mind their smoking (AOR=0.37; 95% CI: 0.16–0.83, p<0.05). Women who were in a committed relationship were more likely to report smoking if their partner was concerned about their smoking (AOR=44.7; 95% CI: 3.81–524,

$p < 0.00$). Having a partner who encouraged them to quit was influential for both women who were in a committed relationship (AOR=12.9; 95% CI: 1.81–91.8, $p < 0.01$) and women who were in a casual relationship (AOR=3.61; 95% CI: 1.62–8.05, $p < 0.00$).

DISCUSSION

Through a review of studies examining gender differences in cessation, Smith et al.²⁰ posit that women have greater difficulty achieving long-term smoking cessation. This study attempted to understand how partner support, a recognized facilitator of smoking cessation, impacts current quit attempts among men and women. Social network members, including partners, impact health behaviors like smoking cessation, in a variety of ways these influences include social support, norms, and access to tangible and non-tangible resources²¹. Partners, both committed and casual, influence one's decision to quit smoking. This study provides evidence that sex partner support is related to the likelihood of current quit attempt among a sample of low income, mostly African American smokers. Unlike previous research, this study looked at positive and negative aspects of social support/encouragement to quit, concern about smoking and not minding partner's smoking.

Each of our hypotheses was supported, but differed by sex. Although the sample size was smaller for women, the relationship between partner support for cessation and current quit attempt was stronger for women than men in this population. Women were influenced by partner concerns about their smoking and encouragement to quit. Among men, sex partners' permissive attitudes towards smoking (i.e. sex partner does not mind participant's smoking) were associated with reduced likelihood of current quit attempt. Having a partner who is not bothered by one's smoking means there is no motivation to decrease smoking. Our study also found that partner's concerns and encouragement to quit did not have a significant influence on men's current quit attempt.

In the supplemental analysis, we found that men and women smokers were influenced by both committed partner and casual partner support towards smoking cessation. Surprisingly, casual partners were more influential on men's decision to quit. Men were less likely to quit if their committed

partner did not mind their smoking but more likely to quit if their casual partner was concerned or encouraged them to quit.

Women were influenced by both committed and casual partners. Women in a causal partnership were less likely to have a current quit attempt if their partner did not mind their smoking. They were more likely to report quitting if their casual or committed partner encouraged them to quit or their committed partner was concerned about their smoking. In this sample with high levels of unemployment and moderate levels of drug use and homelessness, women may be dependent on both their committed and casual partner for money and other necessities²². This dependence may provoke women to follow their partner's guidance to prevent disruption of their relationship.

In this sample, two-thirds of participants reported that their sex partner was also a smoker. Study findings are consistent with previous research that has shown smokers are more likely to have smoking partners compared to non-smokers²³. In populations where smoking is more a norm, including some low-income communities, smokers are likely to have sexual partners who are also smokers. Prior research has indicated that partners who are former smokers or are currently quitting may particularly facilitate cessation, although these results are not consistent across studies¹¹. Thus, dyadic interventions that focus on creating a mutually supportive cessation effort may be a productive means of intervention for both smokers.

How partner support is expressed may also be important. In this study, supportive behaviors and attitudes (e.g. concern, encouragement) by sex partners were linked to making a quit attempt. Research has documented coercive behaviors of male partners towards their female smoking partners, particularly in the context of pregnancy²⁴. While sex partners' supportive behaviors and attitudes may contribute to a quit attempt, it is also possible that individuals who are seeking to quit smoking may select social ties (including partners) who are supportive of cessation and have a longer history together.

Strengths and limitations

This study was limited by the large proportion of respondents who reported no sex partners in the

past six months (n=140). Consequently, confidence intervals were large, particularly for the female subsample (n=86). We also did not assess whether the partner was trying to quit smoking. In addition, this study relied on a cross-sectional survey, so temporality and causality cannot be determined. Due to the use of self-report measures, social desirability bias may have been involved in reporting current quit attempts, number of sex partners, and other measures. It is possible that respondents whose sex partner (or family, friends, or other social ties) disapproved of and discouraged smoking were more likely to remember and report currently trying to quit, regardless of actual smoking behaviors. We did not have data on the quality and length of the partnerships. A final limitation to note is that the outcome utilized in this study was a participant reporting a current quit attempt. Thus, the results cannot be used to ascertain the influence of partner support on long-term tobacco cessation.

Despite these limitations, this study examined the influence of partner support on smoking cessation in an understudied population of low-income African American smokers. This study has shown that there are differential effects of partner support depending on the type of partner. Further, we explored three different domains of support rather than a general support measure. The findings indicate a significant relationship between sex partner support and making a quit attempt among women. Further, we found differences in the influence of partner support on smoking cessation by partner type. Given the high prevalence of partners who are current smokers, dyadic interventions should be explored.

CONCLUSIONS

Future research is needed to determine how to effectively foster partner support for smoking cessation since the limited existing research indicates a potential lack of efficacy in existing interventions. Bolstering interventions will be particularly important in populations that live in communities where tobacco use is a norm, and hence, partners are likely to be smokers. While the results of this study indicate that partner support is linked to a quit attempt, efforts to increase partner support may be more difficult in the context of communities with normative tobacco use and targeted advertising. Further, this study also

suggests that smoking cessation programs should ask smokers about all types of sexual partnerships, not just if they are in a relationship, that may be sources of smoking cessation support.

REFERENCES

1. Babb S, Malarcher A, Schauer G, Asman K, Jamal A. Quitting Smoking Among Adults - United States, 2000-2015. *MMWR Morb Mortal Wkly Rep*. 2017;65(52):1457-1464. doi:10.15585/mmwr.mm6552a1
2. Centers for Disease Control and Prevention. African Americans and Tobacco Use. *cdc.gov*. Updated November 16, 2020. Accessed May 20, 2021. <https://www.cdc.gov/tobacco/disparities/african-americans/index.htm>
3. Moran MB, Heley K, Pierce JP, Niaura R, Strong D, Abrams D. Ethnic and Socioeconomic Disparities in Recalled Exposure to and Self-Reported Impact of Tobacco Marketing and Promotions. *Health Commun*. 2019;34(3):280-289. doi:10.1080/10410236.2017.1407227
4. Stead M, MacAskill S, MacKintosh AM, Reece J, Eadie D. "It's as if you're locked in": qualitative explanations for area effects on smoking in disadvantaged communities. *Health Place*. 2001;7(4):333-343. doi:10.1016/s1353-8292(01)00025-9
5. Stillman FA, Bone L, Avila-Tang E, et al. Barriers to smoking cessation in inner-city African American young adults. *Am J Public Health*. 2007;97(8):1405-1408. doi:10.2105/AJPH.2006.101659
6. Wiltshire S, Bancroft A, Parry O, Amos A. 'I came back here and started smoking again': perceptions and experiences of quitting among disadvantaged smokers. *Health Educ Res*. 2003;18(3):292-303. doi:10.1093/her/cyf031
7. Hymowitz N, Cummings KM, Hyland A, Lynn WR, Pechacek TF, Hartwell TD. Predictors of smoking cessation in a cohort of adult smokers followed for five years. *Tob Control*. 1997;6(Suppl 2):S57-S62. doi:10.1136/tc.6.suppl_2.s57
8. vanDellen MR, Boyd SM, Ranby KW, Beam LB. Successes and failures in resisting cigarettes affect partner support for smoking cessation. *Psychol Health*. 2017;32(2):221-233. doi:10.1080/08870446.2016.1255945
9. Park EW, Tudiver F, Schultz JK, Campbell T. Does enhancing partner support and interaction improve smoking cessation? A meta-analysis. *Ann Fam Med*. 2004;2(2):170-174. doi:10.1370/afm.64
10. Park EW, Tudiver FG, Campbell T. Enhancing partner support to improve smoking cessation. *Cochrane Database Syst Rev*. 2012;(7):CD002928. doi:10.1002/14651858.CD002928.pub3
11. Whitton SW, McLeish AC, Godfrey LM, James-Kangal N, Rhoades GK. Partner Assisted Smoking Cessation Treatment: A Randomized Clinical Trial. *Subst Use Misuse*. 2020;55(8):1228-1236. doi:10.1080/10826084.2020.1731548

12. Schwaninger P, Lüscher J, Berli C, Scholz U. Daily support seeking as coping strategy in dual-smoker couples attempting to quit. *Psychol Health*. Published online May 21, 2021. doi:10.1080/08870446.2021.1913157
13. McBride CM, Baucom DH, Peterson BL, et al. Prenatal and postpartum smoking abstinence a partner-assisted approach. *Am J Prev Med*. 2004;27(3):232-238. doi:10.1016/j.amepre.2004.06.005
14. Carlson LE, Goodey E, Bennett MH, Taenzer P, Koopmans J. The addition of social support to a community-based large-group behavioral smoking cessation intervention: improved cessation rates and gender differences. *Addict Behav*. 2002;27(4):547-559. doi:10.1016/s0306-4603(01)00192-7
15. Pollak KI, Baucom DH, Peterson BL, Stanton S, McBride CM. Rated helpfulness and partner-reported smoking cessation support across the pregnancy-postpartum continuum. *Health Psychol*. 2006;25(6):762-770. doi:10.1037/0278-6133.25.6.762
16. Hemsing N, Greaves L, O'Leary R, Chan K, Okoli C. Partner support for smoking cessation during pregnancy: a systematic review. *Nicotine Tob Res*. 2012;14(7):767-776. doi:10.1093/ntr/ntr278
17. Derrick JL, Leonard KE, Homish GG. Perceived partner responsiveness predicts decreases in smoking during the first nine years of marriage. *Nicotine Tob Res*. 2013;15(9):1528-1536. doi:10.1093/ntr/ntt011
18. Manchón Walsh P, Carrillo P, Flores G, Masuet C, Morchon S, Ramon JM. Effects of partner smoking status and gender on long term abstinence rates of patients receiving smoking cessation treatment. *Addict Behav*. 2007;32(1):128-136. doi:10.1016/j.addbeh.2006.03.027
19. Heatherton TF, Kozlowski LT, Frecker RC, Rickert W, Robinson J. Measuring the heaviness of smoking: using self-reported time to the first cigarette of the day and number of cigarettes smoked per day. *Br J Addict*. 1989;84(7):791-799. doi:10.1111/j.1360-0443.1989.tb03059.x
20. Smith PH, Bessette AJ, Weinberger AH, Sheffer CE, McKee SA. Sex/gender differences in smoking cessation: A review. *Prev Med*. 2016;92:135-140. doi:10.1016/j.ypmed.2016.07.013
21. Berkman LF, Kawachi I, Glymour MM, eds. *Social Epidemiology*. Oxford University Press; 2015.
22. German D, Latkin CA. Social stability and health: exploring multidimensional social disadvantage. *J Urban Health*. 2012;89(1):19-35. doi:10.1007/s11524-011-9625-y
23. Di Castelnuovo A, Quacquarello G, Donati MB, de Gaetano G, Iacoviello L. Spousal concordance for major coronary risk factors: a systematic review and meta-analysis. *Am J Epidemiol*. 2009;169(1):1-8. doi:10.1093/aje/kwn234
24. Flemming K, Graham H, Heirs M, Fox D, Sowden A. Smoking in pregnancy: a systematic review of qualitative research of women who commence pregnancy as smokers. *J Adv Nurs*. 2013;69(5):1023-1036. doi:10.1111/jan.1206

CONFLICTS OF INTEREST

The authors have each completed and submitted an ICMJE form for disclosure of potential conflicts of interest. The authors declare that they have no competing interests, financial or otherwise, related to the current work. C. Latkin reports grants from NIH, outside the submitted work.

FUNDING

This research was funded by NIDA/NIH and FDA Center for Tobacco Products (CTP). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.

ETHICAL APPROVAL AND INFORMED CONSENT

The TIDE study was approved by the Johns Hopkins Institutional Bloomberg School of Public Health Review Board. Verbal informed consent was given before participation in the study.

DATA AVAILABILITY

The data supporting this research is available from the authors on reasonable request.

PROVENANCE AND PEER REVIEW

Not commissioned; externally peer reviewed.