

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

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Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

KEYWORDS

Smoking; smoking cessation; social networks; women; sexual minority

ABSTRACT

Introduction & Aims: Lesbian, bisexual and queer (LBQ) women in Australia and internationally are smoking at least twice the rate of women in the general population. An understanding of smoking behaviours in this population is essential in order to develop effective interventions. Our analysis aimed to investigate differences in smoking patterns and contexts of smoking between current smokers and recent quitters (<2 years to 1 month).

Design & Methods: Data were collected through an online anonymous survey conducted in mid-2015. Participants were recruited online from a variety of social networking sites and community based mailing groups.

Results: Overall 257 LBQ women completed the survey, 73% current smokers and 27% recent quitters; nearly all had smoked daily at some point in their lives. Multivariate analysis showed recent quitters were less likely to have some (aOR 0.19, 95% CI 0.05-0.71) or half/most/all (aOR 0.12, 95% CI 0.03-0.048) close friends who smoked compared to none, and were more likely to have a non-smoking (aOR 10.2, 95% CI 3.86-27.0) or no regular partner (aOR 4.01, 95% CI 1.47-10.9) than one who smoked. Non-Anglo-Australian women were also more likely to be recent quitters (aOR 2.45 (95% CI 1.10-5.42)) than Anglo-Australian women.

Discussion & Conclusions: Understanding the social significance of partners and friends in LBQ women's smoking and cessation efforts will be important for developing meaningful, effective and targeted interventions to address the persistent high rates of smoking in this population.

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

INTRODUCTION

Lesbian, gay, and bisexual people in Australia smoke at much higher rates compared to the general population (26% versus 15%) [1]. The disparity between heterosexual women and their lesbian and bisexual peers is especially stark, with the National Drug Strategy Household Survey showing lesbian and bisexual women had three times the odds of ever having smoked [2]. High smoking prevalence among lesbian and bisexual women is a long term trend in Australia [3, 4] and is echoed across the world [5-10]. Smoking plays varying roles in lesbian, bisexual and queer (LBQ) women's lives: alleviating stress and regulating emotions, facilitating social connections and negotiating social boundaries, and for young women, smoking appears to be linked to themes of rebellion and deviance [4, 11, 12].

As formative research for a smoking cessation intervention for LBQ women, we conducted an online survey to identify patterns in smoking and smoking cessation behaviours among LBQ women. Although several smoking cessation interventions tailored for LGBT people have been developed and evaluated [13], little is known about how current smokers compare to recent quitters. Here we present an analysis that investigates differences in smoking patterns and contexts of smoking between current smokers and recent quitters.

METHODS

Recruitment

Lesbian, bisexual or queer-identified women aged eighteen years or above, who lived in Australia and were current smokers or who had smoked within the last two years but had been smoke free for at least a month (recent quitters) were invited to complete the survey in 2015. Participants were recruited through a variety of social media, social networking sites and community-based mailing groups known to attract considerable numbers of LBQ women.

Questionnaire

Kolstee, J. , Deacon, R. M., Haidar, S. , Gray, J. and Mooney-Somers, J.

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

Data were collected through an online anonymous survey (using Survey Monkey) that included a set of demographic questions and questions on LGBTQ community engagement, frequency of smoking, smoking history, quitting attempts, contexts of smoking, smoking within networks, use of alcohol and other drugs (the full questionnaire is available as supplemental material). Ethics approval was provided by the Human Research Ethics Committee of the University of Sydney, and by the ACON Research Ethics Review Committee. The survey was open for four weeks in mid-2015.

Analysis

Respondents' were included if they had smoked at least 100 cigarettes in their lifetime, and were classified in response to the question "How often do you now smoke tobacco products?" (Daily; At least weekly but not daily; Less often than weekly; Not at all, but I have smoked in the last month; Not at all but I have smoked in the last 2 years) as current smokers (smoked within the last month) and recent quitters (had smoked in the last 2 years but not within the last month). We used descriptive statistics to look at patterns in smoking and smoking cessation behaviours, patterns and contexts, in particular across age, income, education, recent illicit drug use, recent attendance at lesbian, gay, bisexual, transgender and intersex (LGBTI) events, community connection and smoking status of social networks. Differences between smokers and recent quitters were compared at the univariate level using logistic regression. Variables associated with smoking status at $p < 0.05$ were entered into a multivariate logistic regression model to determine which variables were independently associated with recent smoking cessation. All analyses were conducted in SPSS v24.0.

RESULTS

Sample Characteristics

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

We excluded 111 non-smokers or long term ex-smokers, overseas residents or heterosexually-identified respondents and incomplete surveys, leaving a sample of 257 LBQ women.

Demographically, smokers and recent quitters were very similar (Table 1) with a mean age of 33 years (standard deviation 11 years), a majority (75%) reporting an Anglo-Australian or British ethno-cultural background, and high levels of education (51% had a tertiary degree qualification or higher). Close to half of respondents (47%) identified as lesbian or gay, 13% identified as bisexual, and 40% identified as queer or another non-heterosexual identity. Bisexually identified women were significantly less likely to be recent quitters compared to lesbian identified women (OR 0.24 (95% CI 0.07-0.85)); this difference did not remain significant in the multivariate analysis. A majority (69%) of respondents were currently in a relationship. The geographic spread was 32% residing in the Sydney metropolitan area, 42% in regional areas within the state of New South Wales, and 26% in Australia but outside New South Wales. In univariate analysis there were significant differences on two demographic measures: recent quitters were more likely to be non-Anglo-Australian, and less likely to report they were not employed. At the multivariate level, only non-Anglo-Australian status remained significant, with those respondents being more likely to be recent quitters (aOR 2.45 (95% CI 1.10-5.42)) than Anglo-Australian women. Measures of community engagement did not vary significantly between current smokers and recent quitters (Table 1). About half of respondents (48%) felt very or mostly connected to an LGBTQ community in their everyday life and indicated that most to all of their friends were also LGBTQ (57%); the majority had recently attended an LGBTQ event or venue (71%).

Smoking Characteristics

Three quarters (73%) of respondents were current smokers. There were no significant differences between current smokers and recent quitters on smoking history or patterns in smoking (Table 1).

The average age of commencing smoking was 16 and nearly every respondent (92%) had smoked daily at some point in their life (commenced at 19 years of age).

Kolstee, J. , Deacon, R. M., Haidar, S. , Gray, J. and Mooney-Somers, J.

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

Smoking and networks

Current smokers and recent quitters were just as likely to report that half, most, or all of their immediate family currently smoke (Table 1, 18% vs 19%). However at the univariate level, there were differences on the smoking status of their social networks, with recent quitters reporting fewer of their work colleagues and close friends smoked, and they were more likely to have a non-smoking regular partner than current smokers. At the multivariate level, differences for smoking status of work colleagues no longer remained significant. However recent quitters were less likely to have some (AOR 0.19, 95% CI 0.05-0.71) or half/most/all (AOR 0.12, 95% CI 0.03-0.048) close friends who smoked compared to none, and were more likely to have a non-smoking (AOR 10.2, 95% CI 3.86-27.0) or no regular partner (AOR 4.01, 95% CI 1.47-10.9) than one who smoked.

Alcohol and Other Drugs

In univariate analysis, recent quitters were less likely to regularly drink more than 2 standard drinks (OR 0.53, 95% CI 0.30-0.93), and significantly less likely to report recent use (<12 months) of cannabis (OR 0.44, 95% CI 0.25-0.78), amyl/poppers (OR 0.37, 95% CI 0.14-0.98), and any illicit drug use (OR 0.52, 95% CI 0.29-0.91). However, none of these differences remained significant in multivariate analysis.

DISCUSSION

Our analysis is significant for the questions it raises about the process and consequences of quitting smoking for LBQ women; an area with very little research scholarship. While demographically similar to women who had recently quit, LBQ women who continued to smoke remained surrounded by partner(s), close friends and work colleagues that smoked. Recent quitters were significantly less likely to report half, most, or all of their friends smoked or to report their partner smoked. Our findings echo US research with LBQ women that found ex-smokers had higher odds Kolstee, J. , Deacon, R. M., Haidar, S. , Gray, J. and Mooney-Somers, J.

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

of not having a partner who smokes [14]. A plethora of studies – although none with LBQ women – show a smoker's chance of sustained quitting is decreased if there are smokers in their social networks [15-18]. A systematic review of smoking in vulnerable groups (not LBQ women) found high proportions of smokers among friends and family, and the wider community, was a barrier to quitting because smoking was acceptable and normalised [19]. A recent study of real-time predictors of smoking found that compared to heterosexual youth, sexual minority youth's smoking was more influenced by external situation factors than internal factors such as craving or mood [20]: the presence of more smokers increased the likelihood of smoking in a particular situation, while the presence of a smoking family member decreased smoking. The authors speculate that a desire for social belonging may be more important among sexual minority youth.

A lack of sexuality measures in population-level studies (and the national census) mean there are no data available for a representative sample of LBQ women in Australia. It is therefore difficult to say how accurately our findings reflect the experiences of all LBQ women who smoke and those who have recently quit. However, our work contributes to growing evidence that action is needed to address the psychological, social and cultural factors that sustain smoking and support quitting in LBQ women. Our findings have the following implications:

1. Our study cannot determine if the differences in current smokers and recent quitters' social networks is coincidence/opportunistic (they moved away from a friend/friendship group, experienced a relationship breakdown or began a new relationship in parallel with quitting), reflects a deliberate change to social network as part of a quit attempt, or are the consequences of quitting smoking. Qualitative research would be best placed to examine these issues.

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

2. LBQ women's social networks may be a significant source of acceptance in a context where they have experienced family and societal intolerance, rejection and discrimination. LBQ women may fear they will have to forgo these positive connections in order to quit smoking, or will lose them as a consequence of quitting. That our findings show little difference in current smokers and recent quitters socialising within, and sense of connection to, the LGBT community, suggests they are finding ways to remain LGBT community connected and create new networks with fewer smokers. This positive message could be integrated into targeted smoking cessation campaigns.

3. It may be crucial for LBQ women to broaden their social networks to include peers who do not smoke, and for LGBT community organisations to consider how their venues and events support not-smoking. Understanding the social significance of partners and friends in LBQ women's smoking and cessation efforts will be important for developing meaningful, effective and targeted interventions to address the persistent high rates of smoking in this population.

DECLARATION OF INTERESTS

The authors have no conflicts of interest to declare.

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Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

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Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

Table 1: Demographics, community connection, smoking status of social connections and recent drug and alcohol use, comparing LBQ women who currently smoke tobacco and recent quitters (within 2 years prior to survey). Variables associated at the univariate level with having recently quit ($p < 0.05$) were entered into a multivariate logistic regression model. Abbreviations: OR, odds ratio; aOR, adjusted odds ratio; CI, confidence interval.

	Current smokers (n=188)	Recent ex-smokers (n=69)	Total (n=257)	Univariate analysis	Multivariate analysis
	n (%)	n (%)		OR (95% CI)	aOR (95% CI)
Demographics					
Age, mean (standard deviation)	32 (11)	33 (10)	33 (11)	1.01 (0.98-1.04)	-
Ethnicity					
<i>Anglo-Australian (ref)</i>	149 (79)	45 (65)	194 (75)		
<i>Other</i>	39 (21)	24 (35)	63 (25)	2.04 (1.11-2.74)*	2.45 (1.10-5.42)*
Residence					
<i>Sydney (ref)</i>	56 (30)	26 (38)	82 (32)		-
<i>Rest of NSW</i>	81 (43)	26 (38)	197 (42)	0.69 (0.36-1.31)	
<i>Outside NSW</i>	51 (27)	17 (25)	68 (26)	0.72 (0.35-1.47)	
Sexual identity					
<i>Lesbian (ref)</i>	85 (45)	35 (51)	120 (47)		
<i>Bisexual</i>	30 (16)	3 (4)	33 (13)	0.24 (0.07-0.85)*	0.42 (0.10-1.80)
<i>Queer/Other identity</i>	73 (39)	31 (45)	104 (40)	1.03 (0.58-1.83)	1.30 (0.62-2.73)
Employment					
<i>Employed (ref)</i>	154 (77)	62 (90)	207 (80)		
<i>Not employed[†]</i>	43 (23)	7 (10)	50 (20)	0.38 (0.16-0.89)*	0.52 (0.16-1.65)
Yearly before-tax income, AUD					
<i>Nil-\$59,999</i>	139 (74)	43 (62)	182 (71)		-
<i>\$60,000+</i>	49 (26)	26 (38)	75 (29)	1.72 (0.96-3.08)	
Education					
<i>Below tertiary degree (ref)</i>	97 (52)	30 (43)	127 (49)		-
<i>Tertiary degree or higher</i>	91 (48)	39 (56)	130 (51)	1.39 (0.79-2.41)	
Are you currently in a sexual relationship with a regular partner?					
<i>No</i>	57 (30)	22 (32)	79 (31)		-
<i>Yes</i>	131 (70)	47 (68)	178 (69)	0.93 (0.51-1.68)	
Community connection					
Do you feel connected to a LGBTIQ community in your everyday life?					

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

<i>Very / mostly (ref)</i>	90 (48)	33 (48)	123 (48)		-
<i>Somewhat / rarely / not at all</i>	98 (52)	36 (52)	134 (52)	0.99 (0.57-1.73)	
Attended LGBTIQ venue, night or dance party last 6 months					
<i>No (ref)</i>	52 (28)	23 (33)	75 (29)		-
<i>Yes</i>	136 (72)	46 (67)	182 (71)	0.76 (0.42-1.38)	
How many of your friends are LGBTIQ?					
<i>None / some (ref)</i>	86 (46)	24 (35)	110 (43)		-
<i>Most / all</i>	102 (54)	45 (65)	147 (57)	1.58 (0.89-2.80)	
Smoking status of social connections					
Proportion of work colleagues smoke while at work					
<i>Don't work/no colleagues (ref)</i>	41 (22)	6 (9)	47 (18)		
<i>None</i>	40 (21)	23 (33)	63 (24)	0.81 (0.42-1.56)	1.01 (0.45-2.27)
<i>Some</i>	69 (37)	32 (46)	101 (39)	0.37 (0.15-0.92)*	0.37 (0.11-1.17)
<i>About half/most/all</i>	38 (20)	8 (12)	46 (18)	0.26 (0.09-0.69)**	0.56 (0.16-2.05)
Proportion immediate family currently smoke					
<i>None/no immediate family (ref)‡</i>	88 (47)	37 (54)	125 (49)		-
<i>Some</i>	66 (35)	19 (27)	85 (33)	0.68 (0.36-1.30)	
<i>About half/most/all</i>	34 (18)	13 (19)	47 (18)	0.91 (0.43-1.92)	
Proportion close friends currently smoke					
<i>None/no close friends (ref)‡</i>	5 (3)	13 (19)	18 (7)		
<i>Some</i>	83 (44)	40 (58)	123 (48)	0.18 (0.06-0.56)**	0.19 (0.05-0.71)*
<i>About half/most/all</i>	100 (53)	16 (23)	116 (45)	0.06 (0.02-0.20)**	0.12 (0.03-0.48)**
Regular partner smokes					
<i>Yes (ref)</i>	86 (46)	7 (10)	93 (36)		
<i>No</i>	41 (22)	41 (59)	82 (32)	12.3 (5.08-29.7)***	10.2 (3.86-27.0)***
<i>Not in a relationship</i>	61 (32)	21 (30)	82 (32)	4.23 (1.69-10.6)**	4.01 (1.47-10.9)**
Alcohol and drug use					
Frequency alcohol use					
<i>Less than 2 days per week/non-drinker (ref)</i>	124 (66)	53 (77)	177 (69)		-
<i>More than 2 days per week</i>	64 (34)	16 (23)	80 (31)	0.58 (0.31-1.10)	
Usual number standard drinks					
<i>Less than 2 drinks/non-drinker (ref)</i>	69 (37)	36 (52)	105 (41)		
<i>More than 2 drinks</i>	119 (63)	33 (48)	152 (59)	0.53 (0.30-0.93)*	0.95 (0.48-1.90)

Changes in social networks are associated with lesbian, bisexual and queer women quitting smoking: an analysis of Australian survey data

Frequency drunk 5+ standard drinks on one occasion last 6 months					
<i>Less than twice/not at all (ref)</i>	86 (46)	39 (57)	125 (49)		-
<i>More than twice</i>	102 (54)	30 (43)	132 (51)	0.65 (0.37-1.13)	
Illicit drug use last 12 months					
<i>Cannabis</i>	106 (56)	25 (36)	131 (51)	0.44 (0.25-0.78)**	0.54 (0.21-1.40)
<i>Ecstasy</i>	68 (36)	19 (27)	87 (34)	0.67 (0.37-1.23)	-
<i>Cocaine</i>	52 (28)	11 (16)	63 (24)	0.50 (0.24-1.02)	-
<i>Benzodiazepines</i>	52 (28)	11 (16)	63 (24)	0.50 (0.24-1.02)	-
<i>Methamphetamine</i>	37 (20)	12 (17)	49 (19)	0.86 (0.42-1.76)	-
<i>Amyl/poppers</i>	33 (18)	5 (7)	38 (15)	0.37 (0.14-0.98)*	0.64 (0.20-2.06)
<i>Any drug</i>	137 (73)	40 (58)	177 (69)	0.52 (0.29-0.91)*	1.20 (0.44-3.27)

[†]Student only, unemployed or not in workforce

[‡]A minority (17% in each case) of responses were 'No immediate family' or 'No close friends'

*p<0.05

**p<0.01

***p<0.001