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Original Investigation

Cigarette Gifting Among Nonsmokers in China: Findings From the International Tobacco Control China Survey

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Abstract

Introduction: Cigarette gifting is commonly practiced in China and has contributed to the social acceptability and high prevalence of cigarette smoking in the country. As a result, nonsmokers in China are particularly susceptible to smoking. While previous studies have examined cigarette gifting behaviors among smokers, little is known about cigarette gifting among nonsmokers.

Aims and Methods: This study aimed to examine the percentage and correlates of giving and receiving cigarettes as gifts among adult nonsmokers in China. We analyzed nonsmokers ($N = 1813$) aged ≥18 years using data from the International Tobacco Control China Wave 5 Survey. Descriptive statistics summarized the characteristics of those who gave and received cigarettes as gifts. Multivariable logistic regression models were used to identify factors associated with the two behaviors.

Results: Among nonsmokers, 9.9% reported giving cigarettes as gifts to family or friends in the last 6 months. A higher level of knowledge about smoking harms was associated with lower adjusted odds of gifting cigarettes. Nonsmokers aged 25–39 years, with middle income, positive attitude toward cigarette gifts, exposure to anti-smoking information, and exposure to smoking promotion, and those who reported receiving cigarettes as gifts from family or friends were more likely to give cigarettes as gifts. A total of 6.6% of nonsmokers reported receiving cigarettes as gifts in the last 6 months. High education, neutral or positive attitude toward cigarette gifts, exposure to anti-smoking information, exposure to smoking promotion, and having smoking friends were associated with receiving cigarettes as gifts.

Conclusions: It is concerning that Chinese cultural norms that support cigarette gifting have extended to giving nonsmokers cigarettes as gifts. Effective anti-smoking messages are needed. Changing the norms around cigarette gifting and increasing knowledge about smoking harms should help reduce cigarette gifting among nonsmokers.

Implications: Easy access to cigarettes received as gifts, along with the wide acceptance of smoking in China, places Chinese nonsmokers in a risky position. More educational campaigns targeting nonsmokers to proactively prevent them from smoking are called for. The ineffectiveness of existing anti-smoking information highlights the need for more effective anti-smoking messages. That attitude toward cigarette gifts is the strongest predictor of giving cigarettes as gifts suggests the need for interventions to reverse the positive attitude about cigarette gifting to decrease the popularity of this activity.

Introduction

China is the largest producer and consumer of tobacco in the world. There are more than 300 million smokers in China, nearly one-third of the world's total, which results in an alarming toll on public health.[1] China ratified the WHO Framework Convention on Tobacco Control (FCTC) in 2005, and implemented it in 2006. Since then, China has adopted a series of national and local rules and regulations for tobacco control such as banning smoking in some public places, health warning labeling, and raising tobacco taxes.[2] However, the implementation of these tobacco control policies in China has not been effective in reducing smoking prevalence.[3,4] According to cross-sectional National Health Service Surveys in China, the prevalence of current smoking among Chinese aged 15 years or older was 26.0% in 2003, 24.9% in 2008, and 25.2% in 2013; for men, the prevalence was 48.4% in 2003, 47.0% in 2008, and 47.2% in 2013.[3] According to a more recent China Global Adult Tobacco Survey in 2018, a household survey of persons aged 15 years and above conducted by Chinese Center for Disease Control and Prevention (China CDC), the prevalence of current smoking was 26.6% and 50.5% of men currently smoked tobacco.[5] One contributor to the sustained high cigarette consumption in China is the common social practice of cigarette gifting,

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which is rarely seen in other cultures.[6,7] Deeply rooted in the Chinese culture that gifts are a medium for establishing and maintaining interpersonal relationships,[8] gifting cigarettes is commonly practiced in both urban and rural areas and in both daily interpersonal interactions and on special social occasions.[9–12] It is an important predictor of smoking[13,14] and has contributed to the normalization and social acceptance of cigarette smoking in Chinese society. Therefore, the practice of cigarette gifting has been identified as a major barrier to tobacco control in China[6,10] and warrants interventions.

A few studies have estimated the prevalence of cigarette gifting in China. Including only smokers in the study sample, a study using the 2005 National Tobacco Use Survey found that 19.1% of smokers reported receiving cigarette gifts and 9.0% of smokers reported gifting cigarettes to others in the past 3 months.[15] A survey conducted in Jiangsu province in 2010 showed that more than half of the 1200 respondents including smokers and nonsmokers planned to give cigarettes as gifts in the upcoming Chinese New Year Festival[16]; another study in Zhejiang Province found that one in seven adults reported their families giving cigarettes to others as a gift in the last year.[17] Three studies estimated the percentage of cigarette gifting among smokers and nonsmokers separately. A survey in a small rural village in Hunan province in 2011 showed that among households with smoking household heads, 73.8% reported gifting and 86.2% reported receiving cigarettes as a gift during the Chinese New Year Festival; whereas among households with nonsmoking household heads, the corresponding prevalence was 72.5% and 70.0%, respectively.[18] An online survey of 9818 adults in 2017–2018 found that 89.0% of current smokers and 61.4% of nonsmokers reported having given others cigarettes as gifts, and 92.1% of current smokers and 35.3% of nonsmokers reported having received gifted cigarettes in their lifetime.[19] A survey in two provinces in China found that in the last 12 months, 39.9% of smokers and 12.3% of nonsmokers gave cigarettes as gifts to others, and 35.5% of smokers and 6.3% of nonsmokers received cigarettes as gifts.[20]

Though a few studies on cigarette gifting examined nonsmokers separately,[18–20] little other than the percentage, has been known. To the best of our knowledge, there was only one study that used non-probability, internet-based recruitment methods to conduct an online survey to examine the correlates of nonsmokers' cigarette gifting behavior, and the covariates in the model were confined to demographic variables.[19] However, a more in-depth understanding of the practice of cigarette gifting among nonsmokers is important. Past studies and commentary on gifting and sharing cigarettes in China have found that cigarette gifting behaviors both promote smoking initiation and impede cessation among smokers.[10] Although an important part of tobacco control is to help current smokers quit smoking, given the documented challenges of cessation among smokers[21–23] and easy relapse among quitters in China,[24–26] taking a precautionary approach to prevent nonsmokers from smoking is also crucial to reduce smoking in China. Social influence theory indicates that people are more likely to do whatever they see as being the norm and have a tendency to change their behavior to comply with those around them.[27,28] Given persistent high smoking rates[29] and high social acceptance of smoking in China,[10,30] nonsmokers may be more susceptible to smoking than their counterparts in many other countries. Additionally, the easy access to cigarettes caused by cigarette gifting may augment the social influence of smoking and make it easier for nonsmokers to smoke. Moverover, the status of tobacco as social currency[10] makes cigarettes, especially premium cigarettes, desirable among not only smokers but also nonsmokers. Drawing on a probability-sample population-based survey in China, this study was designed to examine the percentage of and the demographic and non-demographic correlates of giving and receiving cigarettes as gifts among nonsmokers, for whom receiving cigarettes as gifts is an alarming indication of the widespread acceptability of smoking.

Methods

Study Sample

Data are from the latest International Tobacco Control (ITC) China Wave 5 Survey, a longitudinal, face-to-face household interview survey completed in July 2015. Based on the consideration of "breadth and diversity with respect to geographic region, economic development, reliance on a tobacco economy, and tobacco use,"[4] five cities (Beijing, Guangzhou, Kunming, Shanghai, and Shenyang) and five rural areas (Changzhi, Huzhou, Tongren, Yichun, and Xining) were surveyed. A stratified multi-stage cluster sampling design was used to produce representative samples of adults aged ≥18 years within each city/rural area.[31,32] The information collected in the survey included individuals' tobacco use patterns and cessation, knowledge and beliefs about smoking, and opinions about tobacco control policies.[3] More details about the survey can be found elsewhere.[33]

This study focused on adult nonsmokers (N = 2063). Those with complete data on outcome variables and covariates were included in the analyses. The final study sample comprised 1813 adult nonsmokers.

Outcome Variables

Two outcome variables were examined: giving cigarettes as gifts and receiving cigarettes as gifts. Giving cigarettes as gifts was measured by asking: "In the last 6 months, have you GIVEN cigarettes as a gift to a family member or friend? If yes, how often?" Receiving cigarettes as gifts was measured by the question: "In the last 6 months, have you RECEIVED cigarettes as a gift from a family member or friend? If yes, how often?" For each outcome, respondents were dichotomized as "yes" (for those who answered "once," "2–5 times," "6–10 times," or "more than 10 times") or "no" (for those who answered "none"). Respondents who answered "refused" or "don't know" were assigned a missing value.

Covariates

Based on previous studies,[15,34] the covariates included sociodemographic characteristics, attitude toward cigarette gifts, knowledge about smoking harms, exposure to anti-smoking information, exposure to smoking promotion, and having smoking friends. Receiving cigarettes as gifts, one of the outcome variables described above was included as a covariate in the model of giving cigarettes as gifts. Sociodemographic characteristics included gender (male and female), age (18–24, 25–39, 40–54, and ≥55 years), education (low [≤elementary school], medium [junior high or high school], and high [≥college/university]), income level (low [≤3000 RMB or ≤$465 USD monthly], middle [3001–5000 RMB or $465-775 USD monthly], high [≥5001 RMB or

≥$775 USD monthly], and not stated), and residence (urban area and rural area).

Attitude Toward Cigarette Gifts

was assessed by asking the extent to which participants agree or disagree with the statement "Cigarettes are very good gifts for family or friends" using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree". Responses were categorized into: (1) negative attitude ("strongly disagree" and "disagree"), (2) neutral attitude ("neither disagree nor agree"), and (3) positive attitude ("agree" and "strongly agree").

Knowledge About Smoking Harms

was assessed by three questions: "Do you think smoking causes stroke?", "Do you think smoking causes lung cancer in smokers?", and "Do you think smoking causes coronary heart disease?" Respondents who answered "yes" to all three items were coded "high knowledge," and otherwise were coded "low knowledge".

Exposure to Anti-smoking Information

was assessed by the question: "In the last 6 months, have you ever seen advertising or information that talks about the harmfulness of smoking, or encourages quitting?" with response options "never," "once in a while," and "often."

Exposure to Smoking Promotion

was assessed by the question: "In the last 6 months, how often have you noticed things that are designed to encourage smoking or which make you think about smoking? (things like advertising and pictures of smoking, television or movies etc.)" with response options "never," "once in a while," and "often." We combined the latter two options into a single group as "ever."

Having Smoking Friends

was assessed by the question: "Of the five closest friends or acquaintances (not including family members) that you spend time with on a regular basis, how many of them are smokers?". Responses were dichotomized as "yes" (for those responses who answered 1 or more) or "no" (for those who answered "none").

Statistical Analysis

We weighted the data to estimate the percentage of each outcome in the final study sample and the subgroups stratified by each covariate. We used a chi-squared test to determine whether there was any difference in the percentage of the outcome variable across all subgroups of each covariate. A multivariable logistic regression model was estimated to determine significant factors associated with each outcome after controlling for other covariates. SPSS version 26 was used to conduct all analyses. A two-tailed p-value <.05 was considered statistically significant.

Results

Sample Characteristics

Among the final study sample, 65.2% were females, 39.2% were aged 40–54 years, 55.6% had medium education, 40.0% were in the middle-income group, 53.7% lived in urban areas, 88.1% had a negative attitude toward cigarette gifts, 52.0% had low knowledge about smoking harms, 43.4% were exposed to anti-smoking information "once in a while" in the last 6 months, 80.0% reported no exposure to smoking promotion in the last 6 months, and 71.0% reported having smoking friends (Table 1).

Percentage and Correlates of Giving Cigarettes as Gifts

Among nonsmokers, 9.9% reported giving cigarettes as gifts in the last 6 months (Table 2). Bivariate analyses show that the percentage of giving cigarettes as gifts were significantly different by all covariates except residence and income level.

Multivariable logistic regression results show that the odds of reporting giving cigarettes as gifts among nonsmokers were significantly higher among nonsmokers aged 25–39 years (adjusted odds ratio [AOR] = 3.13; 95% confidence interval [CI] = 1.18, 8.35) than those aged 18–24 years, among those with middle income than those with low income (AOR = 2.07; 95% CI = 1.14, 3.74), among those who had a positive attitude toward cigarette gifts (AOR = 6.57; 95% CI = 4.07, 10.62) than those who had a negative attitude, among those who were exposed to anti-smoking information "once in a while" (AOR = 2.01; 95% CI = 1.25, 3.21) or "often" (AOR = 4.90; 95% CI = 2.99, 8.04) than those without exposure, among those who were exposed to smoking promotion than those without exposure (AOR = 1.96; 95% CI = 1.35, 2.85), and among those who reported receiving cigarettes as gifts in the last 6 months than those who did not (AOR = 5.91; 95% CI = 3.72, 9.39). In contrast, the odds of reporting giving cigarettes as gifts were found to be significantly lower among those with high knowledge about smoking harms than those with low knowledge (AOR = 0.52; 95% CI = 0.36, 0.75).

Percentage and Correlates of Receiving Cigarettes as Gifts

Table 3 shows that 6.6% of nonsmokers reported receiving cigarettes as gifts in the last 6 months. Bivariate analyses show that the percentage of receiving cigarettes as gifts were significantly different by all covariates except gender, residence, and knowledge about smoking harms.

Multivariable logistic regression results show that the odds of reporting receiving cigarettes as gifts were significantly higher among nonsmokers with high education than those with low education (AOR = 2.45; 95% CI = 1.18, 5.06), among those who had a neutral attitude toward cigarette gifts (AOR = 2.41; 95% CI = 1.28, 4.54) or positive attitude toward cigarette gifts (AOR = 1.96; 95% CI = 1.03, 3.72) than those who had a negative attitude, among those who were exposed to anti-smoking information "once in a while" (AOR = 1.96; 95% CI = 1.17, 3.27) or "often" (AOR = 2.66, 95% CI = 1.50, 4.70) than those without such exposure, among those who were exposed to smoking promotion than those without such exposure (AOR = 2.14; 95% CI = 1.42, 3.23), and among those with smoking friends than those without smoking friends (AOR = 1.76; 95% CI = 1.07, 2.88).

Discussion

This study found that 9.9% of nonsmokers reported giving cigarettes as gifts to a family member or friend in the last 6 months. While this is of concern, it is more concerning that 6.6% of nonsmokers reported receiving cigarettes as gifts from a family member or friend in the last 6 months. Our

Table 1. Sample Characteristics of Nonsmokers by Covariates, International Tobacco Control China Wave 5 Survey ($N = 1813$)

Characteristics		*N*	Column %
Total		1813	100.0%
Gender	Male	631	34.8
	Female	1182	65.2
Age	18–24	103	5.7
	25–39	371	20.5
	40–54	710	39.2
	≥55	629	34.7
Education	Low	420	23.2
	Medium	1008	55.6
	High	385	21.2
Income level	Low	306	16.9
	Middle	725	40.0
	High	541	29.8
	Not stated	241	13.3
Residence	Urban area	973	53.7
	Rural area	840	46.3
Attitude toward cigarette gifts	Negative	1597	88.1
	Neural	115	6.3
	Positive	101	5.6
Knowledge about smoking harms	Low	943	52.0
	High	870	48.0
Exposure to anti-smoking information	Never	707	39.0
	Once in a while	786	43.4
	Often	320	17.7
Exposure to smoking promotion	Never	1451	80.0
	Ever	362	20.0
Having smoking friends	No	525	29.0
	Yes	1288	71.0

estimates are much lower than a previous online survey which found that 61.4% of nonsmokers reported giving cigarettes to others and 35.3% reported receiving gifted cigarettes in their lifetime.[19] One of the reasons for the discrepancy is the difference in the time frame (last 6 months vs. lifetime). Note that in our study, because the ITC China Wave 5 survey covers more than one year, the last 6 months before the interview date may not necessarily include the Chinese New Year when a great deal of gifting and receiving cigarettes occurred in China. Other reasons may include nuances in defining givers/receivers of cigarette gifts (family and friends vs. others), recall issues, etc. Even so, these two studies conveyed the same message that the engagement of nonsmokers with cigarette gifting is not uncommon in China. This message, on one hand, may imply that it is so acceptable to gift cigarettes in China that even those who do not smoke choose cigarettes as appropriate gifts for others; on the other hand, it might be that giving cigarettes as gifts to family or friends is a way to deal with the cigarettes that nonsmokers received as gifts.

Our study also found that receiving cigarettes as gifts was significantly associated with giving cigarettes as gifts. Although the survey did not allow us to determine whether having received cigarettes as gifts predict giving out the same cigarettes as gifts subsequently, our finding potentially supports the cigarette re-gifting hypothesis among nonsmokers that have never been tested in the literature. While this hypothesis implies that nonsmokers may not necessarily have smoked the cigarettes they received as gifts, the possible behavior of re-gifting cigarettes and simply giving cigarettes as gifts by nonsmokers would reinforce the existing social norm around smoking, and fuel the cigarette gifting culture. Meanwhile, the easy access to cigarettes received as gifts and wide social acceptance of smoking could possibly increase the likelihood of smoking uptake of never smokers and relapse of former smokers who would otherwise not smoke again.[10] Future research is needed to formally test the hypothesis of cigarette re-gifting behavior among nonsmokers and to elucidate the mechanism through which the possible cigarette gifting-related smoking uptake and relapse happen in the non-smoker group. Nonetheless, our finding that one in 15 nonsmokers reported receiving cigarettes as gifts is disturbing and calls for more educational campaigns targeting nonsmokers to prevent them from smoking.

Our study identified several sociodemographic characteristics that are associated with giving and receiving cigarettes as gifts. We found significantly higher odds of giving cigarettes as gifts among nonsmokers aged 25–39 years than those aged 18–24 years. This aligns with another survey that found nonsmokers aged ≥35 years were more likely to gift cigarettes to others than 18–34-year-old smokers,[19] suggesting that relatively older groups should be a high-priority group for targeted cigarette gifting interventions. Also, we found that

Table 2. Percentage of and Multivariable Regression Analysis on Reporting Giving Cigarettes as Gifts to a Family Member or Friend Among Nonsmokers, International Tobacco Control (ITC) China Wave 5 Survey (N = 1813)

Covariates		Adults who gave cigarettes as gifts				Multivariable regression model on the likelihood of giving cigarettes as gifts[#,&]		
		N	Weighted column %[#]	Weighted percentage of giving cigarettes as gifts[#]	Chi-square statistic[#]; *p-value*	Adjusted OR	(95% CI)	*p-value*
All		176	100.0%	9.9%		N/A		
Gender	Male	71	50.0%	12.6%	9.21**; p = .002	Referent		
	Female	105	50.0%	8.2%		0.74	(0.51, 1.06)	.099
Age	18-24	7	2.8%	4.2%	11.46**; p = .009	Referent		
	25-39	63	25.4%	13.8%		3.13	(1.18, 8.35)*	.022
	40-54	66	40.9%	10.3%		2.50	(0.96, 6.51)	.062
	55+	40	30.9%	8.6%		2.13	(0.79, 5.75)	.135
Education	Low	28	18.7%	8.1%	14.18**; p = .001	Referent		
	Medium	94	50.0%	8.8%		1.08	(0.66, 1.78)	.751
	High	54	31.3%	15.1%		1.61	(0.87, 2.99)	.130
Income level	Low	23	19.3%	11.2%	.81; p = .848	Referent		
	Middle	72	38.7%	9.6%		2.07	(1.14, 3.74)*	.016
	High	57	29.8%	9.8%		1.33	(0.85, 2.08)	.219
	Not stated	24	12.2%	9.2%		1.26	(0.66, 2.41)	.488
Residence	Urban area	101	56.6%	10.6%	0.88; p = .349	Referent		
	Rural area	75	43.4%	9.3%		0.83	(0.53, 1.29)	.403
Attitude toward cigarette gifts	Negative	127	67.0%	7.6%	103.17***; p < .001	Referent		
	Neural	19	9.3%	17.3%		1.80	(0.95, 3.41)	.072
	Positive	30	23.6%	35.2%		6.57	(4.07, 10.62)***	<.001
Knowledge about smoking harms	Low	107	65.0%	12.5%	13.95***; p < .001	Referent		
	High	69	35.0%	7.3%		0.52	(0.36, 0.75)**	.001
Exposure to anti-smoking information	Never	33	16.5%	4.3%	62.08***; p < .001	Referent		
	Once in a while	80	46.7%	10.8%		2.01	(1.25, 3.21)**	.004
	Often	63	36.8%	19.8%		4.90	(2.99, 8.04)***	<.001
Exposure to smoking promotion	Never	118	61.0%	7.6%	42.88***; p < .001	Referent		
	Ever	58	39.0%	19.0%		1.96	(1.35, 2.85)***	<.001
Having smoking friends	No	29	20.3%	6.7%	9.21**; p = .002	Referent		
	Yes	147	79.7%	11.3%		1.47	(0.95, 2.25)	.082
Receiving cigarettes as gifts	No	112	73.1%	7.8%	135.02***; p < .001	Referent		
	Yes	64	26.9%	40.5%		5.91	(3.72, 9.39)***	<.001

*p < .05; **p < .01; ***p < .001.
[#]Calculation was based on rescaled weights in the ITC China Wave 5 Survey data.
[&]The model includes all the covariates listed in the first column.

nonsmokers with high education were more likely to receive cigarettes as gifts than those with lower education. This is consistent with literature that cigarettes were often gifted to those with high education and social status, such as doctors and people working in a government agency.[10,15,35] While our study did not find a significant association between education and giving cigarettes as gifts, an online survey found higher odds of giving cigarettes as gifts among nonsmokers with high education.[19] This discrepancy may be explained by different educational compositions in study samples: 86.5% of their nonsmoker sample had a college or higher degree[19] compared to 21.2% in our study sample which included a broader representation of educational backgrounds.

In addition, it was observed that several sociodemographic predictors of cigarette gifting behavior among smokers did not predict gifting among nonsmokers. First, we did not find significant differences in giving or receiving cigarettes as gifts between low-income and higher-income nonsmokers except for receiving cigarettes as gifts between low-income and middle-income groups, while a previous study focusing on

Table 3. Percentage of and Multivariable Regression Analysis on Reporting Receiving Cigarettes as Gifts From a Family Member or Friend Among Nonsmokers, International Tobacco Control (ITC) China Wave 5 Survey ($N = 1813$)

Covariates		Adults who received cigarettes as gifts				Multivariable regression model on the likelihood of receiving cigarettes gifts [#,&]		
		N	Weighted column %[#]	Weighted percentage of receiving cigarettes as gifts[#]	Chi-square statistic[#]; *p*-value	Adjusted OR	(95% CI)	*p-value*
All		139	100.0%	6.6%		N/A		
Gender	Male	55	43.8%	7.3%	0.97; $p = .324$	Referent		
	Female	84	56.2%	6.1%		0.97	(0.64, 1.46)	.866
Age	18-24	8	7.4%	7.5%	14.94**; $p = .002$	Referent		
	25-39	41	28.9%	10.5%		1.65	(0.73, 3.73)	.226
	40-54	56	41.3%	6.9%		1.21	(0.54, 2.68)	.648
	55+	34	22.3%	4.1%		0.73	(0.31, 1.75)	.481
Education	Low	22	12.4%	3.6%	24.19***; $p < .001$	Referent		
	Medium	72	50.4%	5.9%		1.38	(0.74, 2.59)	.311
	High	45	37.2%	11.9%		2.45	(1.18, 5.06)*	.016
Income level	Low	21	13.2%	5.1%	8.58*; $p = .035$	Referent		
	Middle	49	31.4%	5.2%		0.87	(0.44, 1.72)	.685
	High	47	36.4%	8.0%		0.71	(0.44, 1.16)	.171
	Not stated	22	19.0%	9.6%		1.63	(0.87, 3.05)	.131
Residence	Urban area	83	58.3%	7.2%	1.30; $p = .254$	Referent		
	Rural area	56	41.7%	5.9%		0.93	(0.56, 1.53)	.766
Attitude toward cigarette gifts	Negative	104	76.9%	5.8%	15.84***; $p < .001$	Referent		
	Neural	15	11.6%	14.3%		2.41	(1.28, 4.54)**	.006
	Positive	20	11.6%	11.5%		1.96	(1.03, 3.72)*	.039
Knowledge about smoking harms	Low	71	53.7%	6.8%	0.16; $p = .690$	Referent		
	High	68	46.3%	6.4%		0.96	(0.64, 1.43)	.829
Exposure to anti-smoking information	Never	29	18.9%	3.3%	22.14***; $p < 001$	Referent		
	Once in a while	74	53.3%	8.2%		1.96	(1.17, 3.27)*	.010
	Often	36	27.9%	10.0%		2.66	(1.50, 4.70)**	.001
Exposure to smoking promotion	Never	83	62.0%	5.2%	24.63***; $p < .001$	Referent		
	Ever	56	38.0%	12.3%		2.14	(1.42, 3.23)***	<.001
Having smoking friends	No	23	19.0%	4.2%	7.66**; $p = .006$	Referent		
	Yes	116	81.0%	7.7%		1.76	(1.07, 2.88)*	.026

*$p < .05$; **$p < .01$; ***$p < .001$.
[#]Calculation was based on rescaled weights in the ITC China Wave 5 Survey data.
[&]The model includes all the covariates listed in the first column.

smokers reported that the higher the smokers' income level, the more likely they were to receive and give cigarettes as gifts.[15] Second, our study did not find any significant difference in giving or receiving cigarettes as gifts between urban and rural nonsmokers, in contrast to a study showing that urban smokers were less likely to give cigarettes than rural smokers but more likely to receive cigarettes as gifts.[15] Third, we found that gender was not associated with either giving or receiving cigarettes as gifts among nonsmokers, while a previous study found that male smokers were less likely than female smokers to receive cigarette gifts.[15] These overall differences between nonsmokers and smokers warrant future research to comprehensively understand the perceptions and behavior of cigarette gifting among different sociodemographic and smoking groups.

Our study contributes to the literature by also identifying several non-sociodemographic risk factors of cigarette gifting among nonsmokers. We found that nonsmokers with a negative attitude toward cigarette gifts were less likely to give and receive cigarettes as gifts and those with high knowledge of smoking harms were less likely to give cigarettes as gifts. These findings have important implications for future interventions. First, to reduce the practice of cigarette gifting, more efforts should be taken to combat the positive attitude toward cigarette gifts. A study on e-cigarette gifting in China found that a positive attitude toward cigarette gifts was also associated with a greater likelihood of giving e-cigarettes as gifts.[36] Taken together, this implies that changing social norms around cigarette gifting may be an important factor in decreasing the popularity of gifting tobacco products. Second, educational programs emphasizing the harms of smoking may help prevent nonsmokers from giving cigarettes as gifts and further contribute to tobacco control.

Surprisingly, we found that both exposure to anti-smoking information and exposure to smoking promotion information were significantly associated with higher odds of giving and receiving cigarettes as gifts among nonsmokers. These findings suggest that smoking promotion information is impactful in promoting cigarette gifting practice but anti-smoking information is not effective in addressing cigarette gifting norms. The latter implication is consistent with a report from the 2015 China Adult Tobacco Survey (conducted almost at the same time as the ITC China Wave 5 Survey), stating that anti-smoking messages about the harms of cigarette smoking and the health benefits of quitting were insufficient in China.[37] In that situation, anti-smoking messages in China were primarily delivered to the public through warning labels on cigarette packages.[23] Therefore, it is possible that the nonsmokers who reported exposure to anti-smoking information saw the information from the warning labels on the cigarette packages at hand. However, the text-only warning labels with the vague message "smoking harms your health" could not play an effective role in providing warning[38] and therefore were unlikely to inhibit nonsmokers from engaging in cigarette gifting. Our findings suggest the need for delivering more effective anti-smoking messages such as pictorial warning labels that meet the requirement of the WHO FCTC.[4] Messages in the "Giving Cigarettes is Giving Harm" mass media campaign that have been empirically found to be effective in increasing smokers' knowledge of smoking harms and de-normalizing that "cigarettes are good gifts,"[39] could also be a good reference for future message development.

Our study found that having smoking friends also significantly increased the odds of receiving cigarettes as gifts among nonsmokers. Research on the Chinese gifting culture suggests that the personal preference and value system of gift givers (ie, giver orientation) are important factors influencing the choice of gifts.[40] Thus, it is reasonable to assume that nonsmokers with smoking friends may be more likely to receive cigarette gifts from smoking friends than those without smoking friends. However, we have no information about whether the cigarettes received as gifts by nonsmokers were from their smoking friends due to data availability. In our study, "friends" referred to the closest friends or acquaintances that the nonsmokers spent time with on a regular basis. Thus, our finding is consistent with the social influence theory that those nearby have strong effects on people[27]; and having smoking friends or acquaintances may mean nonsmokers have more access to cigarettes due to receiving cigarette gifts and this will make them more susceptible to smoking. In addition, 11.3% of nonsmokers with smoking friends reported giving cigarettes as gifts. Given the regular stay with "friends" as defined in this study, if nonsmokers gifted cigarettes to their smoking friends rather than other friends, the possibility of nonsmokers' exposure to secondhand smoke may increase.

This study is subject to several limitations. First, cross-sectional data prohibits causal inferences. Second, the measures of giving and receiving cigarettes as gifts in this study were confined to family members and friends. Thus, the percentages of gifting cigarettes in China in our study are likely underestimates, since they do not include the extensive cigarette gifting that is known to occur in business and social situations. Third, the smoking status of spouses or partners may be associated with cigarette gifting but was not examined by this study due to a lack of available data. Fourth, survey studies are limited in addressing why nonsmokers engaged in cigarette gifting; a qualitative study is highly recommended to provide insight into this question.

Conclusions

Nonsmokers in China give and receive cigarettes as gifts, which may perpetuate the normalization of smoking. The easy access to cigarettes that nonsmokers received as gifts, together with the high social acceptance of smoking, may increase the likelihood of smoking initiation of never smokers and relapse of former smokers. Changing the norms around cigarette gifting, increasing knowledge about smoking harms, and delivering more effective anti-smoking messages to the public may help reduce cigarette gifting among nonsmokers in China.

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Declaration of Interests

GTF has been an expert witness or a consultant defending their country's policies or regulations in litigation and has served as a paid expert consultant to the Ministry of Health of Singapore in reviewing the evidence of plain/standardized packaging. All other authors have no conflicts of interests to declare.

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Not applicable.

Ethics Approval and Consent to Participate

The survey protocols and all materials for the Wave 5 of the ITC China Survey, including the survey questionnaires, were cleared for ethics by the Office of Research Ethics, University of Waterloo, Canada (REB#15305 and REB#17014/30105); Cancer Council Victoria, International Review Board, Australia (IRB IER0803); Chinese Center for Disease Control and Prevention International Review Board, China (IRB201325). The data analyzed in this study are de-identified secondary survey data per the policy of Institutional Review Boards (IRB) of University of California, San Francisco, IRB review has been exempted.

Consent for Publication

Not applicable.

Author Contributions

Conceptualization: JCL, H-YS, TY, and WM. Data collection: ACKQ, YJ, and GTF. Data analysis: JCL, H-YS, TY, GM, and WM. Manuscript drafting: JCL. Manuscript review and editing: H-YS, TY, NJ, ACKQ, GM, GTF, and WM. All authors reviewed and approved the submitted version of the manuscript.

Data Availability

In each country participating in the international Tobacco Control Policy Evaluation (ITC) Project, the data are jointly owned by the lead researcher(s) in that country and the ITC Project at the University of Waterloo. Data from the ITC Project are available to approved researchers 2 years after the date of issuance of cleaned data sets by the ITC Data Management Centre. Researchers interested in using ITC data are required to apply for approval by submitting an International Tobacco Control Data Repository (ITCDR) request application and subsequently to sign an ITCDR Data Usage Agreement. The criteria for data usage approval and the contents of the Data Usage Agreement are described online (http://www.itcproject.org). The authors of this paper obtained the data following this application process. They did not have any special access privileges. Others would be able to access these data in the same manner as the authors.

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