Original Article

Smoking Pattern in Family Members of Smokers in Slums of Surat City, Western India

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Abstract

Background: The relationship between becoming a smoker and having smoker parents, siblings, and relatives is still uncovered in India. The influences of a smoking role model in a family on smoking habits of individuals are yet to be revealed. This study aimed to understand the relationship of smoking abuse of a person with smoking of their family members.

Methods: This community-based cross-sectional study was conducted in the slums of 20 urban health centers (UHCs) of Surat city (India). A pretested semi-structured questionnaire was used to collect data. The data was analyzed using Epi-Info software.

Findings: Among 281 smoker participants, 168 (59.8%), 55 (19.6%), 95 (33.8%), and 50 (17.8%) had smoking fathers, grandparents, siblings, and other relatives, respectively. While 131 participants (44.6%) had correct information about the law of banned smoking, 249 participants (88.6%) were in favor of this law. The association of smoking abuse in fathers with smoking abuse in siblings came out to be odds ratio (OR) = 3.75 (95% CI: 2.11-6.63) and grandparents to be odds ratio 16.43 (95% CI: 4.98-54.17), respectively. The association between education and following the law of banned smoking was statistically significant OR = 2.98 (95% CI: 1.43-6.00).

Conclusion: Substance abuse in parents, siblings, and other relatives is likely to influence the behavior of the person towards it. Persons living in the same vicinity may also greatly influence the behavior of an individual.

Keywords: Smoking, Smoker, India

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Introduction

It is estimated that there are approximately 2-2.5 million cases of cancer in India at any given time, with around 7-9 hundred thousand new cases being detected each year.[1] If the current trend continues, the number of people killed by tobacco use will be more than 10 million annually by the year 2030.[2]

It has been documented in a large numbers of cross-sectional and longitudinal studies that within a family, there is a strong association between the smoking of both parent and older siblings and younger siblings' initiation of smoking and regular smoking habbits.[3] An alarming high number of school children between the ages of 13 and 15 years have tried or are consuming tobacco according to the global health survey.[4] Family history of substance use disorders (SUDs) is the strongest indicator of risk of SUDs in the child. Familial transmission of, and genetic contribution to SUDs are well established.[5,6] Parental SUD also predicts earlier onset of substance dependence in the offspring.[7]

India's toughened ban on smoking in public places came into force from October, 2, 2008 through the Prohibition of Smoking in Public Places Rule which includes prohibition of smoking at work places, bus stops, railway stations, libraries, gardens, hotels, restaurants, discos, and bars and pubs.[8]

The present study was undertaken to understand the relationship of smoking abuse among smokers and their family members.

Methods

Study Design

Surat city of Gujarat state is one of the fastest growing cities in India. It has 36 urban health centers (UHC) for the delivery of health care services in the city. This was a community-based cross-sectional study performed during September to October, 2010 in the slums of areas serviced by 20 UHCs. The selection of these 20 UHCs was conducted by lottery method of Simple Random Sampling.

Selection of Participants

After the selection of UHCs, household surveys were conducted in the nearest slum around that particular UHC. Considering 15 participants from slums of each UHC area, total of 300 participants were interviewed to have equal representatives from all UHC areas. Data was collected until the required sample size was met in each slum. If the required sample size for that particular UHC was not met in one slum, another slum of the same UHC was then selected for data collection.

Study Tools

Based on the review of literature, a pretested semi-structured questionnaire was prepared and used to collect data. The questionnaire was piloted among 20 participants and necessary corrections were made accordingly. After finalizing the questionnaire, one to one interviews of the 300 participants with current smoking abuse were taken by the research personnel. Only participants who were consistently smoking any form of tobacco during the last one year or more and who were willing to participate were enrolled after taking oral consent. The demographic details and information about smoking abuse in their parents, grandparents, siblings, and relatives were collected. Their information about the ban on smoking and perception of the participants about this law and passive smoking was gathered.

Data Analysis

Data management and analysis was done using Microsoft Excel and Epi-Info software. Double data entry procedure was adopted and digitized data was checked for completeness and consistency. The categorical variables were assessed using Mantel-Haenszel odds ratio (OR). Corresponding 95% confidence interval (CI) was calculated for dichotomous variables.

Results

Out of 300 subjects who were contacted, 281 (93.6%) responded to the questionnaire while 19 individuals denied participating in the study. A total of 281 male participants were thus interviewed to know about the smoking abuse pattern among their family members and relatives. Out of 281, 80 (28.2%) were illiterate, 141 (50.2%), 57 (20.3%), and 3 (1.1%) were having elementary education, secondary education, and were above secondary education, respectively. The demographic pattern is shown in table 1.

Figure 1 shows smoking abuse in the family members of all participants. As it is

seen, 168 participants (59.8%) had fathers with smoking abuse.

Table 1. Demographic profile of the participants (n = 281)

Age	< 30 years	89 (31.7%)
	> 30 years	192 (68.3%)
Education	Illiterate	80 (28.4%)
	Literate	201 (71.6%)
Occupation	Laborer	170 (60.5%)
	Non-laborer	111 (39.5%)
Income	< 3000 Rupees	152 (54.1%)
	> 3000 Rupees	129 (45.9%)

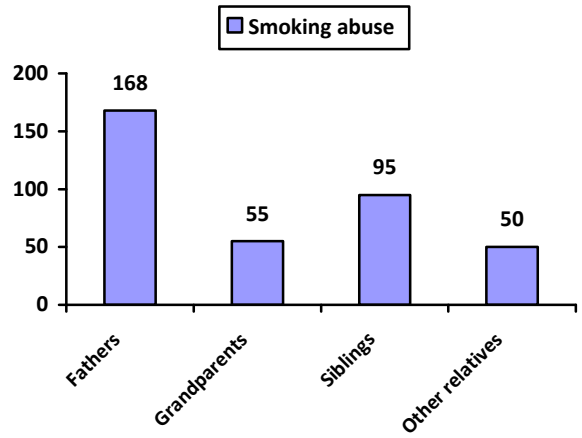

Figure 1. Smoking abuse in family (n = 281)

We tried to find out any significant relationships between smoking abuse of fathers and smoking of siblings and grandparents. The results of associations between smoking in fathers versus siblings and grandparents are shown in table 2.

Among the 281 respondents, 131 (46.6%) were having complete knowledge on law of banned smoking at public places (only the participants who replied correctly about the law were considered as positive response). In addition, 249 participants (88.6%) were in favor of the law and 243 participants (86.4%) followed it. When asked that would this law decrease the hazards of passive smoking, 214 participants (76.2%) gave positive response.

The association between education and following the law of banned smoking at public places was significant as shown in table 3. Thus increasing education, at least making people literate, can change their attitude towards the law of banned smoking at public places. The association between income more than 3000 Rupees and following the law also came out to be significant as shown in table 3.

Discussion

Smoking abuse in parents was revealed to be 59.8% in this study which is close to 62.4% found by Gilman et al.[9] Our results demonstrated that active parental smoking was associated with an increased risk of smoking initiation in offspring. These findings were in consistence with a social learning model of smoking initiation which posits that attitudes, beliefs, and behaviors toward cigarette use are learned through modeling.[10-13]

Education is correlated with a wide range of health measures.[14] Better educated individuals are less likely to smoke, abuse alcohol, be obese, or work in a hazardous profession. In this study, it was found that educated smokers were more in favor of the law of banned smoking in public places. Education may teach individuals to convert health inputs into health outcomes

Table 2. Association between smoking in fathers versus siblings and grandparents (n = 281)

		Smoking abuse in fathers		Odds ratio (95% CI)
		Yes (%)	No (%)	
Smoking abuse in fathers	Yes	75 (78.9)	20 (21.1)	3.75 (2.11-6.63)
	No	93 (50.0)	93 (50.0)	
Smoking abuse in grandparents	Yes	52 (94.5)	3 (5.5)	16.43 (4.98-54.17)
	No	116 (51.3)	110 (48.7)	

CI: Confidence interval

Table 3. Association between education and following the law of banned smoking at public places (n = 281)

		Would you like to follow the law?		Odds ratio (95% CI)
		Yes (%)	No (%)	
Education	Literate	182 (90.5)	19 (9.5)	2.98 (1.43-6.00)
	Literate	61 (76.3)	19 (23.8)	
Income	< 3000 Rupees	140 (92.1)	12 (7.9)	2.14 (1.00-4.56)
	> 3000 Rupees	109 (84.5)	20 (15.5)	

CI: Confidence interval

more efficiently.[15] Better educated people may also employ a more efficient mix of health inputs.[16-18] Some unobserved characteristics may make individuals invest in education which may also increase their investment in health. This can create a correlation between education and health even in the absence of any direct effects.[19]

Conclusion

Smoking abuse in parents, siblings, and other relatives is likely to influence the behavior of the person towards it. Persons living in the same vicinity may greatly influence an individual's behavior. Good percentages of people are in favor of the law of banned smoking at public places which can lead to decrease in hazards of passive smoking and smoking abuse.

Conflict of Interest: The Authors have no conflict of interest.

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مقاله پژوهشی

الگوی سیگار کشیدن در خانواده‌های مناطق پرجمعیت شهر سورات، هند غربی

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چکیده

مقدمه: ارتباط سیگار کشیدن فرد با والدین، برادران و خواهران و اعضای فامیل از موضوعات نامشخص در هند است و الگوی سیگار کشیدن در خانواده هنوز مشخص نمی‌باشد. این مطالعه با هدف، مشخص شدن ارتباط سوء مصرف سیگار بین افراد سیگاری و اعضای خانواده انجام شد.

روش‌ها: مطالعه مقطعی حاضر در ۲۰ مرکز بهداشتی روستایی شهر سورات انجام گرفت. پرسش‌نامه نیمه ساختار یافته جهت جمع‌آوری داده‌ها تهیه و توسط نمونه‌ها تکمیل گردید. سپس اطلاعات با استفاده از نرم‌افزار Epi-info مورد تجزیه و تحلیل قرار گرفت.

یافته‌ها: از میان ۲۸۱ نفر که سوء مصرف سیگار داشتند، ۱۶۸ نفر (۵۹/۸ درصد) والدینشان (پدران)، ۵۵ نفر (۱۹/۶ درصد) پدربزرگ‌ها، ۹۵ نفر (۳۳/۸ درصد) برادر و خواهرانشان و ۵۰ نفر (۱۷/۸ درصد) دیگر اعضای فامیلشان نیز سوء مصرف سیگار داشتند. ۱۳۱ نفر (۴۴/۶ درصد) افراد در مورد قوانین ممنوعیت سیگار اطلاع داشته و ۲۴۹ نفر (۸۸/۶ درصد) با این قوانین موافق بودند. ارتباط بین سوء مصرف سیگار در پدر با سوء مصرف سیگار در برادران و خواهران با حدود اطمینان ۶/۶۳-۲/۱۱ و OR برابر ۳/۷۵ درصد و پدربزرگ‌ها با حدود اطمینان ۵۴/۱۷-۴/۹۸ و OR برابر ۱۶/۴۳ درصد بود. ارتباط بین آموزش و پیگیری با قانون ممنوعیت سیگار کشیدن از لحاظ آماری معنی‌دار بود (حدود اطمینان ۶-۱/۴۳ و OR برابر با ۲/۹۸ درصد).

نتیجه‌گیری: سیگار کشیدن والدین، برادران، خواهران و دیگر اعضای فامیل می‌تواند در گرایش فرد به سمت سیگار تأثیرگذار باشد. افرادی که در یک محله زندگی می‌کنند نیز ممکن است تأثیر بسیاری بر رفتار یکدیگر داشته باشند.

واژگان کلیدی: سیگار کشیدن، مصرف کننده سیگار، هند

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