

·调查报告·

Survey of Smoking Rates Among Residents 35~44 Years Old in Guangdong Province

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Abstract 【Objective】 To find out the smoking rate of 35~44 years of age residents in Guangdong province. 【Methods】 1 554 residents aged 35~44 were investigated by multistage cluster sampling between October and December of 1996 and from March to May of 1997. 【Results】 There were 752 men and 802 women who belonged to the investigative objects whose smoking rates were 81.4% and 4.1% respectively. There were 786 urban residents and 768 rural residents in them, the men's smoking rates were 78.1% and 84.8% respectively which approached the highest level of China. 【Conclusion】 Health education is very important, the government should carry out more powerful tobacco controlling campaigns in Guangdong province.

Key words: smoking; Guangdong

CLC number: R195 **Document code:** A **Article ID:** 1000-257X(2002)03-0229-03

广东省35~44岁居民吸烟率调查 王志瑾, 李志斌, 刘晓合, 陈维清. (中山医科大学流行病学教研室, 广东广州 510089)

摘要: 【目的】为了解广东省35~44岁居民吸烟情况。【方法】1996年10~12月和1997年3~5月采用多阶段整群随机抽样方法选择样本, 共调查35~44岁居民1 554人。【结果】35~44岁居民男、女吸烟率分别为81.4%和4.1%。城市居民786人、乡村768人, 男性吸烟率分别为78.1%和84.8%, 接近全国最高水平。【结论】建议把35~44岁年龄段居民作为控烟的重点人群, 为今后在广东省有组织、有计划、有针对性地进行控烟运动提供依据。

关键词: 吸烟; 广东

Smoking has become one of the most serious social problems in China, and has gradually attracted high attention from wide aspects of the society. However, few intensive investigations on this issue have been carried out among residents in Guangdong province so far. We investigated 1 554 residents aged 35~44 by multistage cluster sampling between March and May of 1997. The purpose is to provide the basis for the making and implementing of smoking controlling strategies in the future in Guangdong province.

1 Materials and Methods

The territorial characteristic of Guangdong province is a slanting triangle, so we randomly drew Shantou city, Zhanjian city, Qingyuan city, Guangzhou city four places to represent the eastern,

southwestern, northern and the middle areas of Guangdong province, and in each city, we randomly selected one street from each of two urban districts and two towns from rural counties. All together this amounted to 16 investigating spots. At each spot, 100 female and 100 male residents aged 35~44 years old were investigated one by one about their smoking situation. A smoker was defined as one who smoked at least one cigarette daily minimum for one year. Professional researchers carried out the investigation. They were responsible for inquiring and filling out the investigation form. These data were reliable and credible. After being verified and reorganized, we input and constructed this data into a database with software of FOXPRO (Ver 5.0) and the data was statistically analyzed with SPSS (Ver 7.5).

Received date: 2001-11-08

Foundation item: The grant from Prof. E. Schwarz, the University of Hong Kong, Faculty of Dentistry, 34 Hospital Road, Hong Kong

Biography: WANG Zhi-jin(1937-), Female, Shanghai, Head and Professor, Department of Epidemiology.

2 Results

2.1 Population smoking rate in Guangdong

1 554 residents aged 35 ~ 44 years old were investigated in this research, including 752 men and 802 women, smoking rates were 81.4% and 4.1% respectively; there were 786 urban residents and 768 rural residents, male smoking rates were 78.1% and 84.8% respectively (Table 1).

Table 1 Population Smoking rate of 35 ~ 44 years of age in the different cities of Guangdong province n (%)

Cities	Areas	Smoking/Subjects	
		Males	Females
Guangzhou	Urban	81/97(83.5)	0/99(0.0)
	Rural	82/93(88.1)	0/103(0.0)
Qingyuan	Urban	74/95(77.9)	1/98(1.0)
	Rural	80/94(85.1)	2/105(1.9)
Zhanjiang	Urban	63/93(67.7)	1/105(1.0)
	Rural	74/93(79.6)	21/97(21.6)
Shantou	Urban	81/98(82.7)	0/101(0.0)
	Rural	77/89(86.5)	8/94(8.5)
Total	Urban	299/383(78.1)	2/403(0.5)
	Rural	313/369(84.8)	31/399(7.7)
	Total	612/752(81.4)	33/802(4.1)

Among the urban residents, the male smoking rate of Guangzhou was the highest, and from higher to lower, the order was Shantou > Qingyuan > Zhanjiang. The population smoking rate has significant difference ($\chi^2 = 8.67$, $P = 0.034$), while the female smoking rate was nonsignificant ($\chi^2 = 1.99$, $P = 0.576$). The rural residents in Guangzhou also had the highest male smoking rate, and from higher to lower the order was: Shantou > Qingyuan > Zhanjiang. The population smoking rate difference was nonsignificant among these cities ($\chi^2 = 3.01$, $P = 0.390$).

As to the female smoking rate, Zhanjiang possessed the highest, which reached 21.6%, followed by Shantou of 8.5%. There was significant difference among the four city's rural residents ($\chi^2 = 39.87$, $P = 0.000$).

Difference of smoking rate between urban and rural residents; In Qingyuan, The male smoking rate of rural residents and urban residents were 85.1% and 77.9% respectively, the difference was significant ($\chi^2 = 4.842$, $P = 0.029$). In Zhanjiang, those respectively were 79.6% and 67.7%, the difference also was significant ($\chi^2 = 4.397$, $P = 0.037$). Zhanjiang had the highest female smoking rate in rural residents which approached 21.6%, while in its urban district, the female smoking rate was just 1.0% ($\chi^2 = 22.935$, $P = 0.000$). The rural residents' smoking rate in Shantou was 8.5%, also was much higher than that of its urban residents which was 0.0% ($\chi^2 = 9.299$, $P = 0.003$).

2.2 Population smoking rate comparison between different occupations

Among the smoking rates of male residents, business people had the highest rate (88.1%), followed by peasant (85.7%), worker (79.5%) and administrator (74.4%). The difference was significant ($\chi^2 = 6.004$, $P = 0.003$). Among female smoking rates; Peasants had the highest (8.3%), while the smoking rate of administrator was just 1.4%. The difference was significant ($\chi^2 = 7.459$, $P = 0.001$) (Table 2).

Table 2 Population smoking rate of 35 ~ 44 years of age in different occupations of Guangdong province n (%)

Jobs	Smoking/Subjects	
	Males	Females
Administrators	87/117(74.4)	1/69(1.4)
Peasants	245/286(85.7)	28/342(8.2)
Workers	116/146(79.5)	0/136(0.0)
Technicians	60/84(71.4)	1/108(0.9)
Businessmen	74/84(88.1)	0/99(0.0)
Others	30/35(85.7)	3/48(6.3)
Total	612/752(81.4)	33/802(4.1)

2.3 Population smoking rate comparison of different education levels

From the Table 3, we can find that with the education level increasing, both male and female smoking rates tended to drop. The lower of the education

level, the higher of the smoking rate. The rate had significant differences between both male and female residents in different education levels. Male ($\chi^2 = 6.366, P = 0.000$), female ($\chi^2 = 7.053, P = 0.000$).

Table 3 Population smoking rate of 35~44 years of age in the different education levels of Guangdong province $n(\%)$

Education level	Smoking/ Subjects	
	Males	Females
Primary school and below	120/ 145(82.8)	26/ 316(8.2)
Junior school	227/ 259(87.6)	4/ 201(2.0)
High school	204/ 258(79.1)	3/ 226(1.3)
University	61/ 90(67.8)	0/ 59(0.0)
Total	612/ 752(81.4)	33/ 802(4.1)

2.4 Cigarette amount of the smokers

Among all smokers of 35~44 years of age, 38.1% of the men and 82.8% of the women, or 40.2% of the total smoked 1~10 cigarette(s) daily; 46.1% of the men, 13.8% of the women, or 44.6% of the total smoked 11~20 cigarettes daily; 15.3% of the men, 0.1% of the women, or 14.7% of the total smoked more than 20 cigarettes daily; 0.5% of the men, 0.01 of the women, or 0.5 of the total, their smoking amount was unknown. The ratio difference of male and female was significant ($\chi^2 = 18.451, P = 0.000$). It illustrated that the smoking amount of the men was more than that of the women, most women smoked 1~10 cigarettes daily, while most men smoked 11~20 cigarettes daily.

2.5 Smoking history of the smokers

Among all smokers of 35~44 years of age, those whose smoking period was less than 2 years covered 4.0%, 3~4 years covered 3.3%, more than 5 years covered 91.9%, smoking history unknown covered 0.8%. This suggested that most male smokers had been smoking for more than 6 years.

3 Discussion

The purpose of this investigation is to collect

data on smoking in Guangdong province. The reason for choosing people of 35~44 years old age is their living habits were relatively stable, so this group was somewhat representative. With the respect to location, we randomly drew 16 investigating spots to represent the eastern, southwestern, northern and the middle areas of Guangdong province, and in each city, we randomly selected one street from each of two urban districts and two towns from rural counties. At each spot, 100 female and 100 male residents of 35~44 years of age were investigated face to face about their smoking situation. The data were relatively reliable.

National Smoking Behavior Investigation Group had investigated residents of all ages in Yuexiu district of Guangzhou city, Nanxiong city and Wuhua county, Jinyuan district of Shantou City, Taishan city in 1996. Their male and female smoking rates for all ages were 72.17% and 3.69% respectively. Among the people of 35~44 years of age, National male and female residents smoking rate were 81.4% and 4.1% respectively, almost close to the highest one for the same age group which was in Yunnan province (male: 81.7%, female: 5.16%) according to the investigation results in 30 provinces/cities of China.

The male residents smoking rate of 35~44 years of age in Guangdong province is significantly higher than that of the females, approximately 20 times higher. Zhanjiang rural area residents had the highest female smoking rate, which approached 21.6%. It was much higher than that of the national rate, and district differences existed. Further research is needed to find out the reason. Our study showed some similarities with the national investigation in 1996; the lower the education level, the higher the smoking rate. With the respect of the occupational distribution, smoking rate of business people was higher than that of the other occupations. Obviously, males smoked many more cigarettes daily than females did.

In summary, we suggest that people of 35~44

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目前发现 3 种异构体, OBRa 的胞内段有 32~34 个氨基酸, 含长胞内段的异构体 OBRb 胞内段有 303 个氨基酸, 一种缺乏跨膜段的可溶性受体 OBRc 仅有 808 个氨基酸^[2]。OBRa 在全身各组织细胞均有表达, 其作用尚未明确。根据脑脉络膜上表达高水平的 OBRa, 推测 OBRa 起着将瘦素从血液转运入脑脊液的作用^[3], 也可能参与调节 OBRb 的功能^[4]。可溶性受体是循环中瘦素结合蛋白之一, 参与维持代谢稳定, 甚至可影响瘦素转运和组织利用。

肥胖症是代谢紊乱综合症中的一种, 并与遗传相关。尽管 db/db 小鼠、Zucker fa/fa 大鼠和 koletsky f/f 鼠因 OBR 基因突变, 导致瘦素作用下降, 使鼠出现肥胖^[5~7], 但人类绝大多数肥胖患者并无 OBR 基因突变, 并且发现多数肥胖患者体内瘦素水平正常或偏高^[8], 说明肥胖患者存在瘦素抵抗状态, 其产生的可能环节有: ①瘦素与其受体蛋白结合异常, ②瘦素通过血脑屏障能力降低, ③瘦素受体功能不全。这些都与基因有关, 因此, 开展 OBR 基因克隆具有重要意义。

序列分析结果发现 cDNA 序列 228 位 T→C 和 515 位 T→C 变异, 前者编码的氨基酸仍为 Gly, 后者则使编码的氨基酸从 Leu→Ser, 余序列与文献报道的一致^[9]。为排除 RT-PCR 的误读, 以同一 RNA 为模板, 再次进行 RT-PCR, 产物序列分析结果显示, 在同样位点出现同样的变异, 因此, 该位点的变异不是误读所致, 可能是基因的多态性, 但需证实。OBR 属于第一类细胞因子受体家族, 第一类细胞因子受体保存有两个 Trp-Ser-X-Trp-Ser 主题, 本次 OBRcDNA 克隆亦存在此两个主题。至于两个位点的碱基变异是否影响其表达产物的功能, 需进一步研究。

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years of age be considered as an essential population to be given the health education, and to be encouraged to quit smoking and control the spread of diseases caused by smoking. All officials and government in Guangdong province should take serious consideration of this issue, make plans or measures and implement them to control the spread of smoking, and should regard it as an important task to deal with.

(Acknowledgement: this research was sponsored by Prof. Eli Swarz and Ru Zhan-ming in Dental hospital affiliated to Hong Kong University; and incorporated with the leaders and related staff of The Bureau of Health in Guangzhou, Zhan-jiang, Shantou, Qingyuan cites Prof. Liang Bin-chang of SUMS, Dr. Liao Lun-hua participated in part of the sampling work)

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