

Original Article

Smoking in a small city: an ethnographic study to serve as a base for the creation of a public health program*

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Abstract

Objectives: To outline the prevalence of smoking in the city of Parazinho, Brazil, with the objective of generating data on which to base a plan of action for smoking control programs in the city. **Methods:** A questionnaire was applied to 150 people (25.6% of whom were smokers) by community health agents during home visits. The questionnaire comprised 30 objective and subjective questions to collect social and biological information on smokers in urban and rural areas. **Results:** The data were analyzed using descriptive statistics, and the principal findings were as follows: the prevalence of smoking was higher among males (57.8%); most of the interviewees started smoking at an early age (45% before the age of 12); economic conditions constituted a contributing factor (66% of the smokers interviewed earned less than the minimum wage); most of the interviewees reported difficulty in kicking the habit (44.6% reported living with a smoker, and 80% had a friend who smoked); there was a high prevalence of tobacco-related diseases (56.6% had respiratory problems); and there was concomitant alcohol use in 52% of the smokers. **Conclusions:** This outline can be used in the generation of a local program of smoking prevention and control. Such a program is, in fact, under development. A team of professionals has received training in a 'minimal, intensive approach to the smoker', and a municipal outpatient clinic for the treatment of nicotine dependence has been inaugurated.

Keywords: Smoking/prevention & control; Questionnaires; Smoking/epidemiology.

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Introduction

The World Health Organization (WHO) estimates that there are currently one billion, two hundred and sixty million smokers and approximately two billion passive smokers, seven hundred million of whom are children. This indicates that half the population of the planet is, directly or indirectly, exposed to the harmful effects of nicotine and other toxic substances in tobacco.^(1,2)

The WHO considers smoking the leading single cause of avoidable morbidity and mortality in the world and predicts that, midway through this century, the smoking pandemic resulting from nicotine dependence will be the leading cause of death, victimizing more individuals than do tuberculosis, AIDS, traffic accidents, homicides, suicides, illegal drugs and alcoholism collectively.^(1,2)

Therefore, there are reports in the literature showing that, currently, tobacco kills one out of ten adults, and this figure could climb as high as one out of six by the year 2030.^(1,3) In 2002, there were five million smoking-related premature deaths worldwide, which correspond to over ten thousand deaths per day. In addition, if the pattern of use does not change, it is predicted that tobacco will cause ten million deaths by 2020, 70% of which will occur in developing countries.^(1,4,5) According to the Pan American Health Organization, current mortality rate due to smoking in Brazil is 200,000/year, which corresponds to 23 deaths per hour and represents an alarming situation.^(1,6)

The most recent data available on the prevalence of smokers in Brazil are from 1989, when the *Pesquisa Nacional de Saúde e Nutrição* (PNSN, National Health and Nutrition Survey) was carried out. In that year, there were over 30 million smokers in the country, corresponding to 32.6% of the population over the age of 15, 39.6% of whom were male and 25.4% of whom were females.^(2,7) In another study, conducted in 2001 by the Brazilian Center for Information on Psychotropic Drugs in 107 Brazilian cities with populations of over 200,000 inhabitants, the prevalence of smoking in the population aged 12 to 65 years was found to be 20%.^(8,9)

Parazinho is a city that is located 116 km from the capital of the state of Rio Grande do Norte. Its economic activities are mainly agriculture and subsistence livestock production. The labor market is restricted to commerce and municipal/state govern-

ment areas. Its human development index is 0.564, among the lowest in Brazil, and life expectancy is 59 years. There are two Family Health teams, one in the urban area and another in the rural area, with a total of 12 community health agents. In addition, there is a health care facility, with headquarters in the urban area, with 24-h emergency treatment, hospitalization and deliveries, as well as a health care center in the Pereiros district. In accordance with the Municipal Health Plan, based on the collection of data from the records of the health care facility performed by the basic health care clinic of the city of Parazinho, the most frequent diseases are: diarrhea; malnutrition; anemias; pneumonia; hypertension; diabetes; dermatologic diseases; scabies; intestinal worms and cerebral vascular accident. Leading causes of death in adults are infarction, cancer and cerebral vascular accident.

The objective of this study was to outline the prevalence of smoking in the adult population of Parazinho, with the objective of developing smoking control programs.

Methods

According to the Basic Health Care Database, there were 2488 individuals older than 19 years of age in the city of Parazinho in August of 2006. Of those, 1610 resided in the urban area, and 878 resided in the rural area. A door-to-door survey conducted by community health agents during this period revealed that there were 585 smokers over 19 years of age, of whom 379 resided in the urban area, and 206 resided in the rural area. The sample size of our study is justifiable, since 150 individuals (25.6%) would be a significant number, with a 25% margin of error, considering a 23.51% prevalence of smoking.

The names of the 585 smokers registered in this database were compiled in an Excel spreadsheet and randomly selected. After the drawing, the data were collected by previously trained community health agents, based on a questionnaire with 30 open and closed questions, regarding the following aspects: personal data; economic situation; smoking habits; history of smoking; age at smoking onset; forms of tobacco use; motivation to smoke; desire to quit smoking; attempts to quit smoking; withdrawal syndrome; friends and family members who smoked; smoking-related diseases; and smoking

associated with the consumption of alcohol. This questionnaire was prepared by us, at the local level, based on a literature review, and was adjusted by the State Department of Health Chronic Degenerative Diseases Sector.

This study was submitted to and approved by the Ethics in Research Committee of the Federal University of Rio Grande do Norte in accordance with the guidelines set forth in Brazilian National Health Council Resolution no. 196/96.

The data obtained were entered into a database, tabulated, organized into charts and analyzed using descriptive statistics.

Results

The data analyzed revealed that 57.8% of the smokers were male, and 42.2% were female. The following sociodemographic profile was determined in the present investigation: in the population over 19 years of age in the city studied, 26.4% of the males and 20.4% of the females were smokers, as can be seen in Table 1. In addition, the prevalence of smokers in the urban area (23.5%) was practically the same as that found for the rural area (23.4%), and the overall prevalence in the city was 23.5%.

Regarding schooling, 39.3% of the smokers evaluated were illiterate, and 51.3% had not finished elementary school. As for occupation, 18.6% were homemakers, 28% were farmers, and 20% were retired. As can be seen in Figure 1, 66% of the interviewees earned less than the minimum wage.

As indicators of the sociodemographic profile, television sets and radios, both of which favor educational studies, were owned by 86.6 and 54.6%, respectively, of the individuals studied.

Regarding age, 25.3% of the interviewees were over the age of 60; and 74.6% were adults ranging in age from 20 to 59 years. As for smoking history, 90% of the interviewees had been smokers for at least a decade. Figure 2 shows that 45% of

the interviewees started smoking before the age of 12, and 78% started smoking before the age of 18.

In the city studied, the proportion of individuals who smoked only commercial cigarettes (30.6%) was practically the same as that of the individuals who smoked only hand-rolled cigarettes (29.3%), and 24% of the interviewees reported using both types interchangeably. Regarding the motivation to smoke, Table 2 shows that 61.3% smoked for pleasure, 25.3% associated the habit with stress relief, and 24% smoked because they felt depressed. In some cases, multiple responses were given to this question.

Smoking was associated with eating or drinking (meals, snacks or coffee) by 78.6% of the interviewees, with waking up and going to bed by 41.3%, and with working by 40%.

A total of 82.6% reported they wanted to quit smoking, and 72.6% had tried to quit smoking at some time. We observed that 19.2% of the individuals reported quitting smoking for a year before they relapsed; hence the importance of conducting preventive and educational studies, as well as providing support groups for former smokers. Among the individuals who reported experiencing symptoms of withdrawal, the most common complaints were headache and anxiety.

Among the interviewees, 44.6% reported living with a smoker, which made it difficult to kick the habit. In addition, 80% of the smokers had friends who smoked.

Of the individuals studied, 90.6% stated they would like to receive more information about smoking. The information they had previously received had been typically provided by health professionals and in schools, which indicates their importance in providing orientation on the subject and working on these issues in everyday situations.

Regarding the investigation of the common acute diseases that affected them the most, the most

Table 1 – Prevalence of smokers in relation to the general population. Parazinho (Rio Grande do Norte), 2006.

	Numbers obtained in the survey	Proportions by gender	Prevalence of smokers in relation to the population in the age bracket studied
Males	338	57.8%	26.4%
Females	247	42.2%	20.4%
Total	585	100%	23.4%

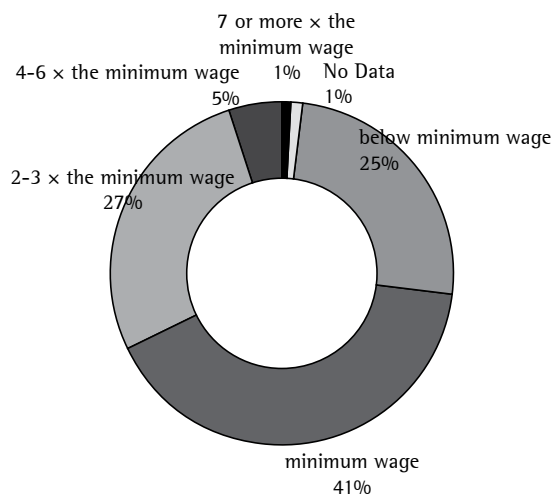


Figure 1 – Family income of interviewees. Parazinho (Rio Grande do Norte), 2006.

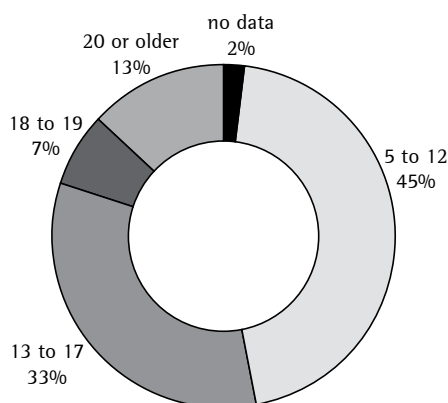


Figure 2 – Age at smoking onset. Parazinho (Rio Grande do Norte), 2006.

often mentioned illnesses were respiratory diseases, which were reported by 56.6% of the individuals, followed by headache, reported by 24%.

The presence or absence of chronic diseases was also investigated, and 31.3% of the interviewees reported they suffered from a disease of this kind. Arterial hypertension, the condition most often mentioned, was found in 15.3% of the interviewees, as shown in Figure 3.

Finally, when questioned regarding whether they drank alcohol, 52% of the smokers stated that they did, whereas 44% stated that they did not.

Discussion

The principal findings of this study were as follows: the prevalence of smoking in the population over the age of 19 was 23.5%; 57.8% of the smokers we interviewed were male; 66% earned less than the minimum wage; 78% started smoking before the age of 18; 44.6% reported that at least one family member smoked; and 80% had a friend who smoked. Another important finding is that 15.3% presented hypertension and suffered most frequently from respiratory diseases. Finally, 52% of the smokers drank alcohol.

One limitation of this study was not having included the Fagerström test in the questionnaire, in order to evaluate the degree of nicotine dependence of the smokers. We believe it will be more conven-

ient to do it later, when drug therapy is available to these smokers. In fact, the purpose of this study was to motivate the implementation of a local, Ministry of Health-sponsored program that would consist of specialized care in smoking cessation, using drug therapy.

The data found in this study, regarding the proportion of male and female smokers, are similar to those of the PNSN, which revealed that 59.6% of Brazilian smokers are male.

A review of the literature, analyzing 15 studies, found a prevalence of approximately 20 to 30% (median, 20.7%), and the value found in this study is in accordance with this parameter.⁽¹⁰⁾

According to the PNSN, there was a greater proportion of smokers in the rural area at that time,^(2,11) which is in disagreement with our findings, since we observed a similar proportion in both areas. This finding should be analyzed with caution, since this is a small city in terms of population, where the distinction between the urban and rural area is not pronounced.

Regarding the association between smoking and socioeconomic situation, as well as that between smoking and schooling, it is known that, in Brazil, individuals with little schooling are five times more likely to become smokers,⁽³⁾ and the consumption of cigarettes is greater in the lower socioeconomic classes.^(7,12) In addition, the financial

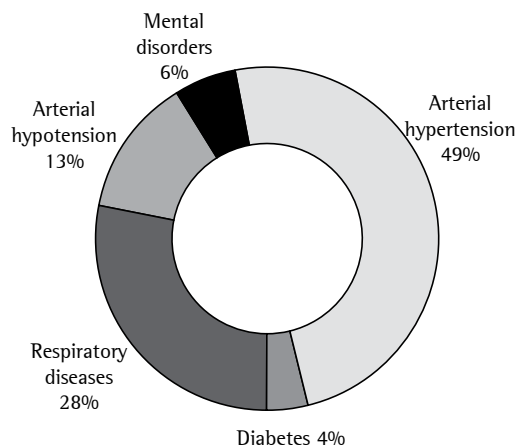


Figure 3 – Chronic diseases presented by the interviewees. Parazinho (Rio Grande do Norte), 2006.

resources expended on smoking could be used in the purchase of food or hygiene products, as well as in education.⁽³⁾ These data are a cause for concern, since they fit the profile of our interviewees.

Television and radio have shown to be the most efficacious vehicles of information in the dissemination of guidelines to promote health, including smoking control, since these vehicles are quite common in the human communication process and their clientele are typically individuals receiving a low income.

Concerning smoking history, 71% of our interviewees had been smoking for 20 years or more, and 37% had been smokers for at least 40 years. There are reports in the literature that, after smoking for a period of 20 years, one out of four smokers dies and, after smoking for 40 years or more, one out of two smokers dies, as a result of smoking-related diseases.^(1,2)

Studies report that 90% of smokers start the habit before the age of 19,⁽¹¹⁾ emphasizing the lack of enforcement concerning the sale of cigarettes to minors, which is illegal and requires better surveillance. In the present study, 85.3% of the interviewees began to smoke before the age of 20 (Figure 2), which is a significant and worrisome finding.

Having a friend or family member who smokes was, respectively, reported by 80 and 44.6% of the interviewees in the present study. In this aspect, a study conducted among university students in Peru revealed that 90.3% of the interviewees had

friends who smoked, and that the parents of 39.6% of the smokers smoked, demonstrating that there is a correlation between being a smoker and having parents and friends who smoke.⁽¹³⁾

As to the form of tobacco use, the low income of the interviewees probably explains the high percentage of smokers who opted to smoke hand-rolled cigarettes. The literature shows that six hand-rolled cigarettes are equivalent to twenty commercial cigarettes, due to their greater toxicity.⁽¹⁴⁾

In the present study, 82.6% of the smokers wanted to quit smoking. However, the international literature reports that, although 80% of smokers have the desire to quit smoking, only 3%/year manage to successfully quit without any kind of formal support.⁽¹⁵⁾ This finding demonstrates the importance of drug therapy and cognitive behavioral techniques in successful smoking cessation.

Health professionals, as well as professionals in the educational area, were mentioned as important sources of guidance and support in smoking control. Educators should work on smoking prevention among school children, spreading the knowledge on diseases and risk factors that result from the use of tobacco. In addition, the medical appointment presents a good opportunity to motivate smoking cessation.⁽¹⁶⁾ Two studies, using meta-analysis, show that the best results occur when counseling is provided by professionals in this category.⁽¹⁷⁾

Respiratory diseases, which were the most common diseases among the interviewees, are directly related to smoking. The WHO (1999) states that smoking accounts for 90 to 95% of all deaths from lung cancer and 75% of all deaths from chronic obstructive pulmonary disease.⁽¹¹⁾

Smoking has been defined as a risk factor for arterial hypertension, and we found that 15.3% of our interviewees had hypertension, a low rate if compared to a population-based study carried out in the city of São Paulo in 2001 and 2002, which reported a prevalence of 24.3% for this disease.⁽¹⁸⁾ Another study, conducted among workers at the University of Brasília in the year 2002, found an even greater proportion (37.9%). In Brazil, it is estimated that the prevalence of arterial hypertension is 15–47.8% among males and 15–41.1% among females.⁽¹⁹⁾

According to the findings of a study conducted at a Colombian university, some circumstances,

such as sadness, anxiety, stress, personal and family problems, depression and work, increase the consumption of cigarettes. In addition, it is reported that smoking is related to subjectivism, similar to what occurs with food, coffee, alcohol and some activities.⁽²⁰⁾ In the present study, as can be seen in Table 2, 25.3% of the individuals studied associated the habit with stress, and 24% used tobacco because they felt depressed. We also observed that smoking was associated with food (by 78.6%), waking up/going to bed (by 41.3%) and work (by 40%).

Another noteworthy finding is related to the consumption of alcoholic beverages. In addition to causing numerous diseases, the harmful effects of alcohol are compounded by the use of tobacco. Furthermore, the consumption of alcohol makes it more difficult to quit smoking.⁽²¹⁾ Regarding this issue, a study conducted in Porto Alegre revealed that the prevalence of smoking is higher among alcoholics (67%) than among those who do not drink (43%).⁽²²⁾ This shows that individuals who drink smoke more, which is in accordance with our study, since 52% associated the use of tobacco with the ingestion of alcohol.

We feel that the results of this study are of great importance to the preparation of a project which aims to implement a therapeutic program for smokers, due to the direct relationship between smoking and a variety of diseases. In the city studied, there is a team that has already been trained in taking a 'minimal, intensive approach to the smoker'. In addition, through this report and using Ministry of Health resources, negotiations are underway to establish an outpatient clinic for smokers and former smokers, offering drug therapy for nicotine dependence, which will improve the quality of life of this population.

Table 2 - Motivation to start smoking among the interviewees. Parazinho (Rio Grande do Norte), 2006.

Motivation to smoke	%
Family	7.3
Coworkers	12
Financial difficulties	14
Friends	16.6
Depression	24
Stress	25.3
Pleasure	61.3

References

- Rosemberg J. Nicotina: droga universal. São Paulo: Secretaria de Estado da Saúde - SES/CVE; 2003. p. 240.
- Rosemberg J. Pandemia do tabagismo - enfoques históricos e atuais. São Paulo: Secretaria da Saúde do Estado de São Paulo - CIP e CVE; 2002. p. 184.
- Brasil. Ministério da Saúde. Organização Pan-Americana da Saúde. Tabaco e pobreza, um círculo vicioso - a convenção-quadro de controle do tabaco: uma resposta. Brasília: Ministério da Saúde; 2004. p. 171.
- Brasil. Ministério da Saúde. Instituto Nacional de Câncer - INCA. Abordagem e tratamento do fumante - consenso 2001. Rio de Janeiro: INCA; 2001. p. 38.
- Spada C, Treitinger A, Souza MA. Prevalência do tabagismo em doadores de sangue da região serrana de Santa Catarina - Brasil. Rev Bras Hematol. Hemoter. 2006;28(1):9-23.
- Brasil. Ministério da saúde. Instituto nacional de câncer - INCA.. Abordagem e tratamento do fumante - consenso 2001. Rio de Janeiro: INCA; 2001. p. 38.
- Spada C, Treitinger A, Souza MA. Prevalência do tabagismo em doadores de sangue da região serrana de Santa Catarina - Brasil. Rev Bras Hematol. Hemoter. 2006;28(1):19-23.
- Brasil. Ministério da Saúde. Secretaria de Assistência à Saúde. Instituto Nacional de Câncer - INCA. Estimativas da Incidência e Mortalidade por Câncer. Rio de Janeiro: INCA, 2002.
- Brasil. Ministério da Saúde. Instituto Nacional de Câncer - INCA. Inquérito domiciliar sobre comportamentos de risco e morbidade referida de doenças e agravos não transmissíveis: Brasil, 15 capitais e Distrito Federal. Rio de Janeiro: INCA; 2004.
- Galduróz JC, Noto AR, Nappo AS. I Levantamento Domiciliar sobre o Uso de Drogas Psicotrópicas no Brasil: Estudo Envolvendo as 107 Maiores Cidades do País, 2001. São Paulo: CEBRID, UNIFESP - Universidade Federal de São Paulo, 2002. p. 18.
- Araujo AJ, Menezes AM, Dorea AJ, Torres BS, Viegas CA, Silva CA, et al. Diretrizes para cessação do tabagismo. J Bras Pneumol. 2004;30(Supl 2):S1-S76.
- Bloch KV, Rodrigues CS, Fiszman R. Epidemiologia dos fatores de risco para hipertensão arterial - uma revisão crítica da literatura brasileira. Rev Bras Hipertens. 2006;13(2):134-43.
- Brasil. Ministério da Saúde. Instituto Nacional de Câncer - INCA. Vigescola - Vigilância de tabagismo em escolares: dados e fatos de 12 capitais brasileiras. Vol. 1. Rio de Janeiro: INCA; 2004. p. 32.
- Ministério da Saúde. Secretaria Nacional de Ações Básicas. Instituto Nacional do Câncer - INCA. Falando sobre tabagismo. 3rd ed. Rio de Janeiro: INCA. 1998. p. 71.
- Zárate M, Zavaleta A, Danjoy D, Chanamé E, Prochazka R, Salas M, et al. Prácticas de consumo de tabaco y otras drogas en estudiantes de ciencias de la salud de una universidad privada de Lima, Perú. Invest Educ Enferm. 2006;24(2):72-81.
- Souza AL. O tabagismo e os programas de auxílio à cessação do fumar [thesis on the Internet]. Florianópolis: Universidade Federal de Santa Catarina, Engenharia de Produção; 2003. [cited 2006 Oct 7]. Available from: <http://teses.eps.ufsc.br/defesa/pdf/10822.pdf>

17. Cinciripini PM, Hecht SS, Henningfield JE, Manley MW, Kramer BS. Tobacco addiction: implications for treatment and cancer prevention. *J Natl Cancer Inst.* 1997;89(24):1852-67.
18. Halty LS, Hünttner MD, Netto IO, Fenker T, Pasqualini T, Lempek B, et al. Pesquisa sobre tabagismo entre médicos de Rio Grande, RS: prevalência e perfil do fumante. *J Pneumol.* 2002; 28(2): 77-83.
19. Presman S, Carneiro E, Giglioti A. Tratamentos não-farmacológicos para o tabagismo. *Rev Psiq Clín.* 2005;32(5):267-75.
20. Marcopito LF, Rodrigues SS, Pacheco MA, Shirassu MM, Goldfeder AJ, Moraes MA. Prevalência de alguns fatores de risco para doenças crônicas na cidade de São Paulo. *Rev Saúde Pública.* 2005;39(5):738-45.
21. Conceição TV, Gomes FA, Tauil PL, Rosa TT. Valores de pressão arterial e suas associações com fatores de risco cardiovasculares em servidores da Universidade de Brasília. *Arq Bras Cardiol.* 2006;86(1):26-31.
22. Parra DB, Pizón MD, Martin LM, Rojas JD. Encuesta de prevalencia sobre el consumo de cigarrillo en la Pontificia Universidad Javeriana. *Univ Psychol Bogotá (Colômbia).* 2003;2(1):89-94.
23. Brasil. Ministério da Saúde. Secretaria Nacional de Assistência à Saúde. Instituto Nacional do Câncer - INCA. Falando sobre câncer e seus fatores de risco. 2nd ed. Rio de Janeiro: INCA; 1998.
24. Chaieb JA, Castellarin C. Associação tabagismo-alcoolismo: introdução às grandes dependências humanas. *Rev Saúde Pública.* 1998;32(3):246-54.