Smoking in the population from 15 to 44 years of age from the city of Tunja, Colombia

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Abstract

Objective. To describe tobacco use, the situation of control measures established in the MPOWER plan, and knowledge regarding smoking and Legislation 1335 of 2009 in individuals from 15 to 44 years of age from the city of Tunja in the department of Boyacá (Colombia). **Methodology.** Cross-sectional descriptive study carried out in 2010, with the participation of 461 individuals from 15 to 44 years of age from the urban area. A two-stage quota sampling was made. Information was gathered by using the Global Adult Tobacco Survey. **Results.** A total of 27% of the participants were smokers; the average age for the start of tobacco use was 16 years; 80% of those surveyed manifested annoyance with respect to tobacco smoke in the environment; 33% were exposed to second-hand smoke at the work place and 20% in their homes. Tobacco use was found in public places, as well as actions for promotion and publicity of tobacco products in grocery stores and communication media. Seventy nine percent of the smokers have tried to give up smoking and 24% of them have received information to this respect by a healthcare professional. **Conclusion.** Tobacco use in Tunja is a public health problem that requires reinforcing strategies to prevent this problem in the city.

Key words: smoking; cross-sectional studies; population surveys.

Tabaquismo en la población de 15 a 44 años de la ciudad de Tunja, Colombia

Resumen

Objetivo. Describir el consumo de tabaco, la situación de las medidas de control establecidas en el plan MPOWER y los conocimientos frente al tabaquismo y la Ley 1335 de 2009 en personas entre los 15 y 44 años de la ciudad de Tunja (Colombia). **Metodología.** Estudio descriptivo transversal realizado en 2010. Participaron 461 personas entre los 15 y 44 años del área urbana. Se hizo muestreo bietápico por cuotas. La información

se recolectó haciendo uso de la Encuesta Global de Tabaquismo en adultos. **Resultados.** El 27% de los participantes era fumador; el promedio de edad de inicio de consumo de tabaco fue 16 años. El 80% de los encuestados manifestó molestia por el humo de tabaco en el ambiente. Expuestos al humo de tabaco ajeno en su lugar de trabajo 33%, y 20% en su hogar. Se halló consumo de tabaco en lugares públicos y acciones de promoción y publicidad de productos de tabaco en tiendas y medios de comunicación. El 79% de los fumadores ha tratado de abandonar el tabaco y el 24% de ellos ha recibido información al respecto por parte de un profesional de salud. **Conclusión.** El consumo de tabaco en Tunja es un problema de salud pública que requiere reforzar las estrategias de prevención.

Palabras clave: Tabaquismo; estudios transversales; encuestas demográficas.

Tabagismo na população de 15 a 44 anos da cidade deTunja, Colômbia

Resumo

Objetivo. Descrever o consumo de fumo, a situação das medidas de controle estabelecidas no plano MPOWER e os conhecimentos frente ao tabagismo e a Lei 1335 de 2009 em pessoas de 15 a 44 anos da cidade de Tunja (Colômbia). **Metodologia.** Estudo descritivo transversal realizado em 2010. Participaram 461 pessoas de 15 a 44 anos da área urbana. Fez-se amostragem bietápico por quotas. A informação se coletou fazendo uso da Enquete Global de Tabagismo em Adultos. **Resultados.** O 27% dos participantes eram fumantes; a média de idade de início de consumo de fumo foi 16 anos. O 80% dos interrogados manifestaram moléstia pela fumaça de fumo no ambiente. Estavam expostos à fumaça de fumo alheio em seu lugar de trabalho 33% e 20% em seu lar. Achou-se consumo de fumo em lugares públicos e ações de promoção e publicidade de produtos de fumo em lojas e meios de comunicação. O 79% dos fumantes trataram de abandonar o fumo e o 24% deles receberam informação ao respeito por parte de um profissional de saúde. **Conclusão**. O consumo de fumo em Tunja é um problema de saúde pública que requer reforçar as estratégias de prevenção desta problemática na cidade.

Palavras chave: tabagismo; estudos transversais; inquéritos demográficos.

Introduction

The prevalence of chronic non-communicable diseases (CND) is rapidly increasing in the world; in 2001, CND represented 60% of the total number of deaths and 46% of morbidity throughout the world.[1] This problem tends to increase and affect the population at increasingly earlier ages and it has become a threat to public health, given its economic, social, family, and individual impacts.[2] For the Americas, CNDs represent 70% of the causes of death and mainly affect individuals between 18 and 70 years of age,[3] a reality reflected in countries like Colombia and the department of Boyacá where CNDs are among the main causes of death.[4,5]

Scientific evidence has revealed association between CND and tobacco use.[6] The World Health Organization (WHO) indicates that, yearly, smoking kills over five-million individuals throughout the world and if the tendency persists, for 2030 these deaths will increase to eight-million.[7] Globally, tobacco use is responsible for 11% of deaths occurring due to ischemic heart disease and for over 70% of deaths due to lung, bronchial, and tracheal cancer.[8] In Colombia, tobacco use causes 80% of deaths due to lip, mouth, and pharynx tumors; furthermore, it is the cause of 80% of the cases of lung, tracheal, and bronchial cancer; and of 40% of cancer of

the urinary bladder, being responsible for 40% of the mortality reported due to chronic lower respiratory tract diseases.[9] According to the 2008 National Study on the Use of Psychoactive Substances, in Colombia 45% of the individuals between 12 and 65 years of age declared having used cigarettes at some point in their lives.[10] The Secretary of Health of Boyacá found in a study that the prevalence for tobacco use was 23% in the population from 15 to 44 years of age, and that its use began at 17 years of age.[11]

To confront the smoking epidemic and the high costs attributed to caring for the health damages associated to said epidemic, the WHO created the Framework Convention on Tobacco Control, an international binding treaty adopted by more than 160 countries and ratified by Colombia in 2006. This Agreement contemplates measures aimed at controlling cigarette smoking through strategies to diminish the offer and demand, along with actions tending to neutralize and denounce the behaviors of the industry in the ratifying nations.[2] Additionally, and as a way of guiding the implementation the Framework Convention for Tobacco Control, the WHO created the MPOWER plan, which implies: monitor tobacco use (Monitor), protect the population from tobacco smoke (Protect), offer help to quit tobacco (Offer), warn of the dangers of tobacco (Warn), enforce the bans on publicity, promotion, and sponsorship (Enforce), and raise taxes on tobacco (Raise);[7] measures that scientific evidence considers cost effective to control this problem.

To respond to the commitments acquired by ratifying the Framework Convention for Tobacco Control, in 2009 Colombia enacted Legislation 1335,[12] with obligatory compliance throughout the national territory. This study sought to describe tobacco use, the situation of control measures established through the MPOWER plan, and knowledge regarding smoking and legislation 1335 of 2009 in individuals from 15 to 44 years of age from the city of Tunja in 2010.

Methodology

Study site and participants. This was a quantitative descriptive-type cross-sectional study conducted during the second semester of 2010 in the urban area of the city of Tunja (department of Boyacá – Colombia). Individuals from 15 to 44 years of age voluntarily participated; they could not be under the influence of alcohol or hallucinogenic substances and showed no signs of physical or mental conditions that would hinder their being part of the project. According to Resolution 008430 of 1993,[13] this study was considered free of risk. Informed signed consent was obtained from adults and from the parents and/or legal guardians of participants under 18 years of age.

Sampling and sample size. Participant selection was made from a two-stage quota sampling. The primary sampling unit or conglomerates were the socio-economic levels for the city of Tunja according to the Department of National Statistics (DANE, for the term in Spanish).[14] The secondary sampling unit was composed by the neighborhoods belonging to each socio-economic level, and – lastly – the selection of the homes was carried out by quotas; in each home selected, the researchers randomly selected potential participants for the investigation through the Kish method.[15] The calculation of the sample was obtained by the StatCalc tool of the Epi Info program version 3.3, bearing in mind a population size of 44,892 inhabitants from 15 to 44 years of age,[16] 23% expected frequency according to the prevalence of tobacco use en Tunja,[14] 95% confidence index, and expected error of ± 4%. Ten percent was added for possible losses. The final sample size corresponded to 461 individuals.

Techniques and instruments for information gathering. To collect information, we used the 2010 Global Adult Tobacco Survey (GATS 2010) authorized by the Pan-American Health Organization and adapted to the local context.[17] The GATS is an international instrument that seeks to collect data on tobacco use and its control measures through the MPOWER plan; this survey was complemented with questions inquiring on knowledge regarding smoking, perception of such, and norms in effect, which were based on the Mexican 2009 GATS and the 2009 study on Perception of cigarette smoking developed by the Colombian National Cancer Institute.[18,19] Once the instrument was adapted, a pilot test was run with 46 individuals from 15 to 44 years of age from the city of Tunja who were not included in the study, which permitted making pertinent adjustments. The survey was applied in guided manner: the researchers read the questions and marked the corresponding option according to the responses given by the participants.

Analysis. The information was condensed in a database elaborated in the 2007 Microsoft Word Excel program and subjected to double verification. In total, 443 surveys were analyzed and 13 were eliminated due to errors while filling them out. Univariate and bivariate analyses were conducted through the 2002 Epi info program version 3.3.

Results

Table 1 shows the socio-demographic characteristics of the sample; 52.6% of the participants were males, almost 22% were younger than 20 years of age, 73.8% had high school and high education schooling; 97% were affiliated to the General System of Healthcare Social Security (SGSS, for the term in Spanish), and another equal portion were in socio-economic level 3 and below.

Protection of the population from tobacco smoke in the environment (Protect). A total of 80.4% of the sample manifested annoyance about second-hand smoke; 20.1% were exposed every day to second-hand smoke at home and 33.3% in their work place. The frequency tobacco use observed in places where Legislation 1335 of 2009 bans said use was higher in places of mass influx like fairs, festivals, and concerts (94.5%), followed by bars, discotheques, clubs, casinos and/or restaurants (76.2%); sports or cultural scenarios, stadiums and/or football fields (69.3%); grocery stores, market places, supermarkets, liquor stores, cafeterias and/or cafes (64.8%).

The frequency of individuals who smoked their tobacco product in places where the legislation bans said use was higher during events of mass influx like fairs, festivals, and concerts (79.6%); bars, discotheques, clubs, casinos and/or restaurants (67.1%); sports or cultural scenarios, stadiums and/or football fields (59.0%). Upon inquiring on the conduct of society regarding smoking in spaces banned by the Legislation, it was found that only 14.4% (57 individuals) of those observed complained orally, 45.6% (181 individuals) left the place, thus, permitting the infraction to continue, and 40.0% were indifferent to the situation.

Offer help to quit tobacco (Offer). A total of 79.0% of the 119 current smokers manifested having tried to quit smoking within the last 12 months, 32.8% consulted with a physician or another healthcare professional of which 24% (5 individuals) received guidance on how to proceed.

Warnings on the dangers of tobacco (Warn). Information in communication media alluding to the dangers of tobacco use observed by those surveyed was greater on television, billboards, banners and posters (63.6%); television and movies (73.6%); and radio (47.1%). Health warnings included in cigarette packs were observed by 53.7% of those surveyed.

Publicity, promotion, and sponsorship of tobacco products (Enforce). The broadcast media where a higher percentage of publicity and promotion appeared for the use of tobacco products were public places like grocery stores, restaurants, and bars (62.8%); media like television and movie theaters (49.3%); newspapers, magazines, and bulletins (79.7%); radio (21.0%); internet

Table 1. Socio-demographic characteristics of the 440 participants

Variable	Frequency	%
Male	233	52.6
Age group in years		
15–19	96	21.7
20–24	96	21.7
25–29	69	15.6
30 –34	53	12.0
35–39	58	13.1
40-44	71	16.0
Level of schooling		
Elementary	109	24.6
High School	207	46.7
Technical	51	11.5
University	60	13.5
Graduate	9	2.0
None	7	1.6
Affiliation to the SGSSS		
Special scheme	14	3.2
Contributive contributor	71	16
Contributive beneficiary	119	26.9
Subsidized scheme	209	47.2
Impoverished uninsured population	11	2.5
Not affiliated	19	4.3
Socio-economic level		
1	98	22.1
2	179	40.4
3	153	34.5
4	11	2.4
5	2	0.6

Tobacco use (Monitor). Of those surveyed, 26.9% (119 individuals) were active smokers and 23% (102 individuals) smoked at some point of their lives. The average age to start tobacco use was 15.8 ± 3.0 years (Ranging from 5 to 31).

(20.3%); billboards, banners, and posters (42.4%). Thirty-one percent of the participants observed some form of cigarette promotion, with free samples as the most common form.

Raising taxes (Raise). Some 88.2% of the current smokers perceived an increase in the Price of the product within the last year.

Knowledge regarding smoking and Legislation 1335 of 2009. A total of 98.4% of the participants believed that second-hand smoke posed a health risk; another 99.1% recognized that consuming tobacco products causes diseases; 71.1% manifested knowing of Legislation 1335 of 2009 for tobacco control, and 81.0% rated it as good.

Discussion

According to other national and international research, the study presented similarity regarding tobacco use in relation to average age of initiation and gender; adolescence is shown as the stage when tobacco use is most frequently started in men than in women. It also reflects knowledge of the harmful effects of tobacco; however, the use of this substance shows considerable prevalence. The results provide useful evidence to reinforce and favor making decisions aimed at creating and enhancing strategies to prevent this important public health problem in the city of Tunja.

The study permitted identifying tobacco use, the situation of control measures established through the MPOWER plan, and knowledge regarding smoking and Legislation 1335 of 2009 in individuals from 15 to 44 years of age from the city of Tunja in 2010 through which the following aspects were analyzed:

Regarding tobacco use, we found an average initiation age for the consumption of this substance similar to that found in other studies "People from Boyacá have a healthy lifestyle" (*Tenemos un Estilo de vida saludable los Boyacenses)*[11] and the "2008 National Study on the Use of Psychoactive Substances in Colombia"[10]; and higher tan that reported by the 2009 investigation "Use of psychoactive substances and determinant factors in school age individuals in Tunja" [20], a situation that shows the need to focus prevention actions on adolescents, given that tobacco use is considered a risk factor for early onset of CND and the gateway to the consumption of other psychoactive substances like alcohol and marihuana, among others.

The prevalence of tobacco use found in this study was higher than the departmental prevalence for this same age group.[11] In Colombia, the survey on smoking among youth yielded similar prevalence in Bogotá and Cali; higher in Manizales and lower in Bucaramanga and Valledupar;[21] suggesting that Tunja has a high tobacco use at the departmental level and at the national level it is within the average compared to the bigger cities in the country. Nevertheless, this prevalence must be considered in directing public health strategies in the city of Tunja, which integrate the inter-sector action organized to control tobacco use through cost-effective measures contemplated within the Framework Convention and which Legislation 1335 of 2009 backs at the national level. Bear in mind, also, that the youth should not be excluded from prevention strategies given the high publicity of tobacco products targeting this population in recent years.[22] This is, likewise, evident in the city of Tunja cigarette publicity is present in communication media, street furnishings, and points of sale.

In relation to protection from second-hand smoke, it was found the daily frequency of tobacco use in the home was five times higher than that reported by the 2009 Mexican GATS.[18] Our study revealed high exposure to second-hand smoke in homes in the city. Also, it must be considered that the control measures are only regulated in public places and not in homes, which presents a challenge in the development of prevention strategies from and for the home.

Additionally, in the city of Tunja there is evidence of a higher percentage of individuals exposed to tobacco smoke in their work place confronted to results from Mexico and Uruguay,[18,23] noting non-compliance of environments 100% free of cigarette smoke as a responsibility acquired by the nation upon ratifying the Framework Convention for Tobacco Control and; thereby, that established by Legislation 1335 of 2009. Civil society's low empowerment and indifference are striking with respect to the right to breathe air 100% free of tobacco smoke. Due to the aforementioned, strategies are required involving the city's communication media aimed at building the local capacity in community leaders and the community in general against this aspect.

We found that the proportion of current smokers who have tried to quit smoking during the last

year is superior to that reported in the youth from cities like Bogotá, Cali, and Manizales;[21] nonetheless, cessation services are unknown and very few smokers receive guidance from healthcare professionals to quit tobacco use, evidence that reiterates the need to offer healthcare services cease consumption and abandon the addiction.

It may be highlighted that a high proportion of the participants observed in communication media information that warned of the dangers of smoking, a higher result compared to Mexico,[19] and which sets communication media as useful tools in information, education, and communication campaigns to desensitize social acceptance of smoking within the population.

Furthermore, publicity of tobacco products had a high frequency in public places like grocery stores, bars, and cafeterias, a behavior similar to that reported in Mexico and Uruguay,[18,23] which reiterates the POS of tobacco products as key axes of the industry with respect to publicity actions. Additionally, among the strategies promoting tobacco use free cigarette samples predominated, an aspect in which changes are expected when articles 13 to 17 of Legislation 1335 of 2009 go into effect, which regulate this issue.

The situation of smoking and the measures for its control found in this study represent a relevant field for nursing professionals to conduct advocacy actions that favor the health of the non-smoking population, which involve participation from mass media, government entities, civil society, and academia to strive for the compliance of Legislation 1335 of 2009 in the city of Tunja as part of a binding international agreement and of obligatory monitoring like the Framework Convention on Tobacco Control.

The instrument used to collect the information is considered additional strength for the study; the GATS is an international survey created to monitor and control the smoking epidemic in adults, which permits comparing the results with similar studies. Also, the sampling was conducted by considering the all the inhabitants from 15 to 44 years of age from the city of Tunja, including individuals from different socio-economic levels and neighborhoods in the urban area, an aspect that enables generalizing the results.

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