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Artículo de Revisión

Tobacco Consumption Interventions and Smoke-Free Policy in Ecuador

Intervenciones gubernamentales sobre el consumo de tabaco y políticas libres de tabaco en Ecuador

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Conception and design of the study: JCP, APF; acquisition of data: JCP. Analysis and interpretation of data: JCP, ROK, GAM, CYL. Drafting the article or revising: JCP, ROK, GAM, DTT, APF. Final approval of the version: APF
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Abstract

Objectives: The World Health Organization Framework Convention on Tobacco Control Conference of the Parties (WHO-FCTC COP) recognized Ecuador as a leader in the Latin American region for having increased tobacco taxation, which is widely considered one of the best government tools for decreasing tobacco consumption. Despite such efforts, the nation has a persistent need for high quality tobacco prevention programs, especially with regards to adolescent smoking and second-hand smoke. In this study, we identify and describe the tobacco consumption interventions and policies in Ecuador

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Data Sources: secondary data survey and analyzed literature.

Methods: Through an extensive search of the academic literature and of the current tobacco laws in Ecuador, in this study we identify and describe the important interventions regarding tobacco consumption in Ecuador that the current administration has instituted.

Results: Rates of lung cancer (5.0%) and heart disease (19.5%) have been steadily increasing. Government interventions have led to a mandatory 150% SCT (Special Consumption Tax) and a 12% VAT (Value-Added Tax) being added to the purchase price of all tobacco products. Following these interventions, Ecuador has achieved a tobacco consumption rate of less than 20% among adolescents aged 11 to 15 years old.

Conclusions: The institution of certain governmental policies, particularly tobacco taxation, has dramatically reduced the rate of tobacco consumption in Ecuador. However, additional interventions, such as a national tobacco education program overseen by family and community-based physicians, would likely further reduce tobacco consumption. Finally, the enforcement and maintenance of smoke-free areas in Ecuador are needed.

Keywords: Smoke, tobacco consumption, secondhand smoke, active surveillance, Ecuador

Resumen

Objetivos: la Conferencia de las Partes del Convenio Marco de la Organización Mundial de la Salud para el Control del Tabaco (CMCT- OMS) reconoció a Ecuador como líder en la región de América Latina por haber incrementado abrumadoramente los impuestos al tabaco, la cual es considerada como una de las mejores estrategias gubernamentales para disminución del consumo de tabaco. A pesar de estos esfuerzos, el país tiene una necesidad persistente de programas de alta calidad sobre prevención del tabaco, especialmente con temas relacionados al tabaquismo en los adolescentes y la exposición al humo del tabaco. En este estudio, identificamos y describimos las intervenciones y políticas gubernamentales sobre el consumo de tabaco en Ecuador.

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Fuentes de datos: Datos secundarios, revisión literaria.

Métodos: a través de una búsqueda extensa de la literatura académica y de las leyes de tabaco vigentes en Ecuador, en este estudio identificamos y describimos las intervenciones importantes con respecto al consumo de tabaco que la administración actual en Ecuador ha sido constituida.

Resultados: las tasas de cáncer de pulmón (5,0%) y enfermedad cardíaca (19,5%) han aumentado constantemente. Las intervenciones gubernamentales han dado lugar a un impuesto del 100% (impuesto especial sobre el consumo) obligatorio y un IVA del 12% (impuesto al valor agregado) que se agrega al precio de compra de todos los productos de tabaco. Después de estas intervenciones, Ecuador ha logrado una tasa de consumo de tabaco de menos del 20% entre los adolescentes de 11 a 15 años de edad.

Conclusiones: La institución de ciertas políticas gubernamentales, en particular los impuestos al tabaco, ha reducido drásticamente la tasa de consumo de tabaco en el Ecuador. Sin embargo, las intervenciones adicionales, como un programa nacional de educación sobre el consumo de tabaco direccionado por médicos especialistas en medicina familiar y comunitaria, probablemente reducirían aún más el consumo de tabaco. Finalmente, se requiere de la aplicación y el mantenimiento de áreas libres de humo de tabaco en el Ecuador.

Palabras clave: consumo de tabaco, exposición al humo del tabaco, vigilancia activa, Ecuador.

Introduction

Ecuador is a middle-income country[1] with a population of 14,483,499 people[2] With a 46.6% smoking rate, it is the fourth highest tobacco-consuming nation in Latin America. In addition, exposure to second-hand smoke is one of the leading causes of morbidity and mortality in the nation. [3, 4]

The percentage of Ecuadorian adults who smoke has increased from 18.4% in 2007 to 22% in 2010. Meanwhile, in adolescents aged 13 to 15 years old, smoking rates have dropped from 27.9% to 26.0% (Table 1).[3]

In terms of gender, approximately 22% of males and 9% of females in 2010 were cigarette smokers[5]. Males smoked

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60% more cigarettes per day than females[6]. Tobacco consumption related cardiovascular and respiratory disorders were the principal causes of death, accounting for about 4000 per year. Increasing rates of lung cancer (5.0%) and heart disease (19.5%) were reported in 2010, while other respiratory diseases have slightly decreased over the past five years (Table 1). In addition, the national tumor registries, provided by the Sociedad de Lucha contra el Cancer (SOLCA), show that cancer rates have increased from approximately 6% in 1980 to 14% in 2010.[5]

WHO/NCD-2008 estimated that males are more likely than females to develop both cancer and chronic respiratory diseases.[7] Moreover, in 2011 the WHO reported that the most common cancers among Ecuadorian cigarette smokers were breast cancer (<14%) and gastric/colorectal cancer (<7%). Further, both breast and gastric/colorectal cancer rank in the top thirteen causes of death.[8]

The World Health Organization Framework Convention on Tobacco Control Conference of the Parties (WHO-FCTC COP) recognized to Ecuador as a leader in the Latin American region for having increased tobacco taxation, which is widely considered one of the best government tools for decreasing tobacco consumption. Despite such efforts, the nation has a persistent need for high quality tobacco prevention programs, especially with regards to adolescent smoking and second-hand smoke.

This study shows how tobacco-free policies stablished by local government in Ecuador has made important changes in controlling tobacco consumption and increasing tobacco taxation as leading tobacco control country in Latin America (LA). Cigarette packages pictorial warnings in Ecuador have challenged strong psychological impact on potential customers; such a strategy not only is printed on at least 70% both side of the package, but also is a pioneer strategy in decreasing young people tobacco use in the LA region, which is considered as the major public health problem even in developed countries.

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Table 1 Smoking Profile in Ecuador between 2005-2010.

	(%)					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Adolescent smoking prevalence (13-15 years old) in both sexes			27.9*			26.0**
Adult smoking prevalence by gender						
Male	21.5	21.6	21.8	21.9	22.2	22.3
Female	10.5	9.5	9.5	9.5	9.5	9.6
Total	15.9	15.5	18.4*	15.7	15.8	22.0**
Deaths						
Respiratory disease	36.9	36.2	36.3	35.7	35.5	34.2
Heart disease	19.2	19.1	19.2	19.4	19.4	19.5
Lung cancer	4.7	4.7	4.8	4.9	4.9	5.0
Total	60.7	60.0	60.3	60.0	59.9	58.7
Special Consumption Tax (SCT)	98.0	98.0	98.0	98.0	150.0	150.0
Value-Added Tax /Sales tax	12.0	12.0	12.0	12.0	12.0	12.0
Cigarettes-Imported	104.5	123.0	173.1	96.5	117.0	101.6
Cigarettes-Exported	87.8	90.0	231.2	160.1	177.6	144.7
Cigarette-Production (million/kilos)	3,479.0	3,534.0	3,547.0	3,393.0	3,325.0	3,098.0
Legal sales (million/sticks)	3,307.1	3,116.9	2,749.0	2,931.8	2,872.9	2,822.5
Illicit trade	25.5	26.3	29.9	29.5	28.8	31.1

Sources: WHO*, Euromonitor International, USDA, Internal Revenue Service , Society against Cancer , Ministry of Public Health**, Central Bank of Ecuador, NCNPS, Productivity Ministry, PAHO, United Nations.

Methods

Through an extensive search of the academic literature and of the current tobacco laws in Ecuador; Search strategy and terms were used to identify studies on smoke-free policies worldwide in Pubmed, using the EndNote X7 software. MeSH entry terms used on this study were (((“tobacco smoke pollution”) AND “smoke-free policy”) OR “tobacco use cessation”).

Ecuadorian goverment documents were searched on Google Academic (GA). Keyword searches for GA were “World Health Organization tobacco control” and “anti-tobacco policies in Ecuador”. EndNote software was also used to manage references. In

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this study, we identify and describe the important interventions regarding tobacco consumption in Ecuador that the current administration has instituted.

Results

Tobacco consumption in adolescents

In Ecuador, cigarette smoking among adolescents is a significant public health problem, especially for those aged 11 to 13. [5,18] The increasing use of tobacco in this age group, in Ecuador's largest cities Guayaquil (from 7% in 2001 to 14 % in 2007) and Quito (from 13% in 2001 to 16% in 2007), is compounded by the fact that 24% of young people overall are considered smokers. Moreover, 46% of high school students living in rural areas were classified as beginner and/or first time tobacco users, this includes the Andean (58% smokers) and Amazon (56% smokers) regions, areas where tobacco prevention legislation was specifically enacted in an attempt to reduce tobacco use. Migration of adolescents and young people from rural areas to developed cities was also shown to be an influential factor for the initiation of tobacco consumption.[5]

Despite the fact that female tobacco consumption remains less than its male counterpart, both sexes show an increasing propensity for tobacco consumption, particularly adolescents, who often perceive cigarettes as a symbol of independence, glamor, and a feature of a modern lifestyle. Research has shown that cigarette smoke contains up to forty carcinogens, including high levels of carbon monoxide.[4,9] Further, due to the toxic substances present in tar, tobacco smoke is harmful for both smokers and non-smokers, and there is no safe level of exposure.[10,11]

Thus, adolescent smokers and non-smokers alike who experience long-term smoke exposure are more likely to develop disorders such as asthma, middle ear infections, lymphoma, leukemia as an adult, stroke, sinus disease, breast and lung cancer, atherosclerosis, COPD, and to deliver low birth weight children. [12]

Tobacco supply

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Tobacco companies from the United States, Brazil, Argentina, Colombia, the Dominican Republic, and Cuba supply the cigarette market in Ecuador through both legal and illegal trade.[4] The WHO–FCTC/COP's official position is that the protocol for the eradication of the illicit trade of tobacco products should rely on gaining control of tobacco smuggling and other forms of illicit tobacco trade executed by tobacco companies in developed and developing countries alike. In direct opposition to the WHO's protocol, an agreement between the European Union (EU) and tobacco companies encourages illicit trade through a system developed by Phillip Morris. This system grants tobacco companies control of tobacco supply chains. The system was also recently implemented by the British American Tobacco (BAT) group as well as the Japan Tobacco Inc. (JTI), and it appears to be expanding to developing countries as well. [13]

Ecuadorian tobacco regulations and policies

The Interinstitutional Committee against Smuggling and for Anti-Tobacco (ICSAT), created by Ministerial Agreement No. 955 in 1989, has launched numerous tobacco prevention and control programs aimed at decreasing the prevalence of smokers and the rate of exposure to second-hand smoke, with the ultimate goal of reducing tobacco related morbidity and mortality. ICSAT has been managed by government authorities from different ministries, governmental and non-governmental organizations (WHO/PAHO), and various civil society leaders. ICSAT has recently continued its efforts to promote tobacco control through the creation and subsequent passage of the Organic Law for Tobacco Regulation and Control (OLTRC) in July 2011, when tobacco consumption was deemed a major public health problem in Ecuador.[13]

The OLTRC (legislative resolution No. R-26-123/ official registry No. 287) promotes programs that encourage smokers to attempt tobacco cessation and offers smokers free treatment and rehabilitation. In addition, Articles 1 and 2 of the OLTRC together with official WHO-FCTC policies regulate tobacco advertising and promotions on the national level. Further, tobacco sales are strictly banned for those under 18 years old.[5, 14,15]

According to Articles 5 and 6 of the OLTRC, the Ministries of Industry,

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Agriculture, and the Environment, in coordination with the Internal Revenue Service (IRS/SRI) and private institutions, have oversight over the control of all forms of illicit tobacco trade and smuggling in Ecuador.[14]

The National Council on Narcotic Drugs and Psychotropic Substances (NCNPS) is in charge of implementing tobacco-related regulations and controlling tobacco consumption.[5]

Designated smoking areas and smoke-free areas

Title 3 of the OLTRC states that smoking is banned in public and private places and where social activities take place including in educational and healthcare institutions, sporting clubs, cultural and art centers, recreational and entertainment centers, cinemas, malls, hotels, restaurants, offices, public transportation, libraries, and at fairs, in order to protect non-smokers' rights. Moreover, according to Title 5 of the OLTRC, fines from US $264 to US $1320 may be levied upon any individual or institution that breaks this law. The law is intended to protect adolescents, young adults, and non-smokers from exposure to second-hand smoke.[5]

The only places where tobacco use is currently permitted are bars, nightclubs, and casinos, but those places are required to have an approved ventilation system in place in order to reduce the levels of ambient tobacco smoke. For those businesses found in violation of this law, a fine of US $264 for the first offense and US $436 for the second offense will be assessed.[5]

Tobacco taxation

In addition, Title 2 of the OLTRC states that the government (2012) must impose a progressive tax per unit of approximately US $0.075 (US $0.08 in 2013) (Table 1). Meanwhile, in 2012 Ecuador's neighboring countries, Colombia and Peru, charge a tobacco tax of US $0.034 per unit and US $0.041 per unit respectively. [5]

Ecuador was recognized by the WHO-FCTC/COP5 as a leader in the Latin American region for increasing tobacco taxation to 150% in 2012, up from 98% in 2008, which "represents an increase of 63% per unit for middle-priced brands" and up to 200% for lower-priced brands. Additionally, the

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OLTRC, under the national tobacco policy, requires that the consumer price index (CPI) and the value-added tax be adjusted every six months to reflect the current price of all brands of cigarettes. This policy has single handedly prevented tobacco companies from reducing the total price of a package of cigarettes, one of the industry's major strategies to recruit new consumers. Since 2010, the IRS has required a 150% Special Consumption Tax (SCT or ICE) on all tobacco products. Further, if tobacco companies' sales margins exceed 25%, an additional 12% Value-Added Tax must be assessed as a part of
the final price. Ecuador's signature strategy to reduce tobacco consumption is in direct concordance with the WHO-FCTC's recommendations, which state that increased taxation is the most effective mechanism to deter tobacco retail sales and to therefore reduce tobacco consumption.[5]

Moreover, there is only one tobacco corporation in Ecuador, Tabacalera Andina SA, which is an affiliate and a subsidiary of Philip Morris International Inc. This corporation is responsible for all of the major tobacco brands in Ecuador including Lider, Lark, Marlboro, Belmont, and Philip Morris.

The tobacco taxation regulations imposed by the current Ecuadorian government have had an impact on both imported brands such as Kool and Lucky strike, as well as domestic brands. One effect has been an overall decrease in tobacco consumption. However, another effect has been a change in consumer consumption habits, with a majority of consumers switching from high priced to mid-priced and low priced brands. Additionally, due to the low prices of tobacco products in neighboring Peru and Colombia, Ecuador has seen an increase in the smuggling and illicit trade of tobacco over the past seven years. Finally, Ecuador has seen a decrease in the legal trade of tobacco related goods as well as a drop in tobacco production by 11% in 2010 (Table 1).[5]

Advertising and promotion

The OLTRC prohibits both advertising of tobacco products on the radio from six o´clock in the morning to nine o´clock in the evening and advertising of tobacco products on television at any time. Further, any form of outdoor advertising may not be present within 200 meters of an
educational institution. Moreover, tobacco prevention media campaigns

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have recently been shown to be much more effective on younger smokers than on adult smokers.[5, 16]

In 2009, a three-year study of the effects of television and radio advertisements on health promotion revealed minimal to no effect of such advertising on tobacco consumption, as was expected by the Ecuadorian government. Further, during this period tobacco retail sales continued to show strong growth. The study concluded that brand identification and product preferences are strongly established, and changing consumption patterns is very difficult to accomplish.[16]

Discussion

The Ecuadorian government has taken significant actions to deter the growth of the tobacco market in Ecuador. Chief among these has been strict tobacco legislation, backed by health authorities and enforced by the Ecuadorian Assembly as well as the Interagency Committee on Smoking Control and Department of Guidance and Student Welfare. With further input from non-government anti-tobacco organizations and the civil sector Ecuador has managed to reach the WHO-FCTC anti-tobacco objectives.

However, despite overwhelming financial support from the government, efforts to control illicit trade have not been sufficient.[20] Corrupt import operations continue to occur along both the northern and southern borders, and the government has no immediate plans to provide further resources to counteract them.

Despite strong anti-tobacco laws in Ecuador, strict enforcement of those laws remains elusive. For example, the OLTRC stipulates that all cigarette brands must include pictorial warnings regarding the harmful effects of tobacco, and that those warnings must occupy at least 60% of the front and back of the package. Additionally, the law states that health information must be printed on at least 70% of both sides of the package, which is in accordance with Article 6 of the WHO/FCTC.[14] However, currently on the majority of cigarette packages pictorial warnings only occupy 40% of the front and back of the package, and health information is only printed on one side of the package. At this time there are no cigarette brands that have images of diseased organs on the package, as occurs in some countries and which has been shown to have a strong psychological impact on potential customers.[16]

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In 2011, the Ecuadorian Congress legislated a new project that was purported to be a much more effective means at reducing tobacco consumption and preventing non-smokers from exposure to second-hand smoke.[13,21] This project included resources for the building of treatment centers for tobacco addicts, the creation of smoke-free areas, and the enforcement and promotion of the OLTRC. Such efforts have led to increased awareness of the harmful effects of exposure to tobacco smoke as well as the widespread implementation of preventive measures aimed at reducing exposure.[19] An additional benefit has been the accumulation of significant data, which has allowed health officials to both monitor and research tobacco trends in Ecuador.[22]

Since 2006, 100% smoke-free areas as well as established smoking areas were established by the Reformatory Consumer Defense Law (RCDL),[5] which focuses on decreasing exposure to second-hand smoke.[22,23] However, laws mandating smoke-free areas are loosely followed and rarely enforced, especially at restaurants and bars, parks, musical concerts, sporting events, cultural and recreational events, and night clubs, where street vendors are able to sell tobacco freely to all persons even those under 18 years old. Thus retail point of sale restrictions may be a necessary next step and should be considered by legislators. Finally, enforcing smoke-free area laws is particularly challenging in rural areas, where smokers are less likely to be familiar with the law and enforcement agents are few in number.

Expensive therapies and devices such as nicotine replacement therapy and electronic cigarettes are only affordable to a small number of high-income consumers, who are for the most part motivated by medical recommendations to quit smoking. Future legislation should consider making the most efficacious of these devices available to lower income consumers. Finally, Ecuadorian legislation has as of yet not specified regulations regarding maximum levels of tar in cigarettes.

Tar, which contains the highest number of carcinogenic compounds in tobacco smoke, should be highly regulated in order to reduce the incidence of tobacco related malignancies.[15]

Conclusions

Given the high adult male tobacco consumption rate in Ecuador, women and children are particularly prone to second-hand smoke exposure, 17 and

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thus the timely institution of policies to protect these populations is needed.

Despite strong anti-tobacco legislation, including the RCDL and the OLTRC, enforcement of the law has been difficult. For example, the above legislation includes mandates for the creation and institution of tobacco education programs and campaigns taught by community-based healthcare medical doctors at the high school and university level throughout the entire country. Yet currently such programs are minimal both in number and extent.

A stricter adherence to already enacted legislation will not only result in a large reduction in exposure to second-hand smoke for the people of Ecuador but will also decrease the incidence of respiratory disorders, cardiovascular disorders, and low birth weight as well as improve mortality rates.

Another important measure to reduce exposure to second-hand smoke is the institution and maintenance of isolated smoking areas and proper ventilation in those areas. These measures should be clearly stated in the law and enforced adequately.

Proper smoke-free policy should establish limits on corporations as well as on consumers including the restriction of advertisements and the assessment of fines for those who break the law, as occurs in developed countries.

Ecuador has prioritized increased tobacco taxation, which according to the WHO-FCTC/COP, is the best tool for decreasing tobacco consumption. However, the Ecuadorian government must increase its fight against the smuggling of tobacco products over its borders.

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