

Active Smoking Economic Burden Over the Cuban Public Health

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Abstract

Introduction: Identifying the smoking economic burden in the national health system is possible designing effective economic policies for the smoking control. Societies which had applied restrictive measures over the tobacco consumption had showed an effective reduction from the health services demand related to smoking. In all cases the start point was to identify the smoking economic burden in the health services consumption. Today haven't been possible to identify the smoking economic burden in the Cuban health system services demand consumptions.

Objective: To identify the smoking economic burden in the Cuban health system services demand consumptions.

Methods: Was made a transversal descriptive research about the smoking economic burden in the Cuban health services demand consumption's in 2019. Teoric methods: inductive - deductive, comparative and historic - logic. Empiric method: bibliographic research. Calculating the smoking economic burden was used and algorithm published by the journal *MedCrave Toxicology* in 2018. Results: In 2019 active smoking consumed the 11.1% from the Cuban Public Health budget. As result the Cuban active smokers demanded the 27.3% from the sector resources.

Conclusion: Smoking is an important burden for the efficient management of the financial resources from the Cuban Public Health. It influences over this sector also determines the form and quantity from the health services related to smoking.

Keywords: *Smoking; Economic Burden; Public Health*

Introduction

The available financial resources and the risk factor control are key elements determining the health services consumption. That's why the prevention plays a significant role for the patient satisfaction [1].

Smoking is one of the most researched risk factor because of the smokiing impact over the financial administration from the Public Health. This risk factor is close related to morbidity and mortality from no - transmissible illness [2].

The treatment to patients because of these illness is usually expensive because of must be administred in espezialized health institutions in much cases. That's why the smoking control can be an effective tool to reduce the effective demand of health services because of these morbidity causes [3].

Societies where had been adopted measures to reduce the tobacco consumption had showed an evident dismination from the effective demand of health services and as consequence had experimented an added management capability from the financial resources [4].

In all cases the start point was associated to identify the economic burden attributable to smoking in the consumption of health services. For the Cuban context the National Health Survey is very important to determine this rate because is the unique scientific publication showing the prevalence from tobacco consumption in Cuba [5].

Authors as Ariel Barchad [6], Isaranuwachai [7], Lightwood and Glantz [8] and Sung Max [9] had estimated the smoking economic burden in the national health system researched by case. However, the method utilized assume that probability of smoker spend in the health system is equal to probability of smoking spend in the health system too. This is because this method don't consider the relevance from the effective demand of health services attributable to smoking agree to tobacco consumption level. As consequence, the smoking economic burden is overvaluated [10].

To resolve this limitation, authors designed a new formula to estimate the smoking economic burden in the national health system [11], wich was valided analytically [12]. Based on that new formula, authors designed an algorithm to estimate the smoking economic burden in the national health system step by step [13]. Nevertheless, at present haven't been identified the economic burden attributable to active smoking over the Cuban Public Health. This is the main objective from this research.

Methods

Was made a transversal descriptive research about the smoking economic burden in the Cuban health services demand consumption's in 2019. Teoric methods: inductive - deductive, comparative and historic - logic. Empiric method: bibliographic research. Calculing the smoking economic burden was used and algorithm published by the journal MedCrave Toxicology in 2018.

Results

In 2019, the 90.1% from the main mortality causes in Cuba was because of death causes close related to smoking, as show the table 1.

Mortality in Cuba	Year 2019
Hearth illnesses ^a	26736
Cancer ^a	25035
Brain-vascular illnesses ^a	10008
Flu and pneumonia ^a	8923
Accidents ^a	5429
Cronic illnesses from the down respiratory way ^a	4310
Illnesses from veins ^a	2794
Diabetes mellitus ^a	2313
Cirrhosis and other liver illnesses ^a	1939
Self damage ^a	1462
Total ^b	88949
From them close related to smoking ^c	80119
Probability from mortality related to smoking ^b	90,1%

Table 1: Probability from mortality related to smoking in Cuba in 2019.

a: Health Statistic Yearbook [14]. b: Calculus from authors.

c: Health National Survey 2019 [4].

The mortality causes included in the analysis were the following:

- Hearth illnesses
- Cancer
- Brain - vascular illnesses
- Flu and pneumonia
- Cronic illnesses from the down respiratory way
- Illnesses from veins
- Diabetes mellitus.

The tobacco consumption prevalence for people from 15 years old and older raised fewly in 2019 respect to 2010. As result the probability to has an active smoker in the Cuban population was 18.2% in 2019, as show the table 2.

Ratios	2019
Prevalence (15 years old and older) ^a	21,6%
Population of 15 years old and older ^b	9421021
Whole population ^b	11201549
Probability to has an active smoker ^c	18,2%

Table 2: Probability to has an active smoker in 2019 in Cuba.
*a: Health National Survey [4]. b: Health Statistic Yearbook [14].
 c: Calculus from authors.*

The middle daily intensity from the tobacco consumption in 2019 was 15.5. ⁴Considering a minimal consumption of five tobacco at day to determine the exitence of the effective demand of health services attributable to smoking, the probability of the effective demand of health services attributable to smoking was 67.7 in 2019 as show the table 3.

Ratios	2019
Middle tobacco consumption at day ^a	15,5
Minimal tobacco consumption at day ^b	5
Probability from the effective demand of health services attributable to smoking ^c	67,7%

Table 3: Probability from the effective demand of health services attributable to smoking in 2019 in Cuba.
*a: Health National Survey 2019 [4].
 b: Fabelo Roche J R, Iglesias Moré S, Álvarez Martínez E M [15].
 c: Calculus from authors.*

These results determined that in 2019, the 11.1% from the Cuban health spend was attributable to active smoking, as shows the table 4.

Ratios	2019
Probability from mortality related to smoking ^a	90,1%
Probability to has an active smoker ^b	18,2%
Probability from the effective demand of health services attributable to smoking ^c	67,7%
Probability of the health spend attributable to active smoking ^d	11,1%

Table 4: Probability of the Cuban health spend attributable to the active smoking in 2019.

a: Table 1. b: Table 2. c: Table 3. d: Calculus from authors.

Discussion

The main death causes related to smoking in Cuba are no trasmissible illnesses. A recent Cuban research identified that the hearth illnesses and cancer were the main death causes in Cuba from 1990 to 2018. The same research pointed that the most important is cancer [16]. In that way the economic burden attributable to active smoking in the National Institute for Oncology and Radiology in 2015 was 30.9%, using the same algorithm. This result does emphasis in the close relation between smoking and cancer in Cuba [17].

Tobacco consumption prevalence grewed 0.8% respect to 2010. That's why the Cuban society showed that two from each 11 people were active smokers [4,18].

The probability from the effective demand of health services attributable to smoking determined that the economic burden attributable to active smoking was 11.1% in 2019. This result focus the attention to the real necessity to apply effective public policies to reduce the tobacco consumption for a better smoking control [19].

A Cuban research from 2018 showed that increasing the Price from the tobacco box most solded from \$7.00 to \$11.00 should cause an effective reduction from the tobacco consumption [20]. However, agree to the present Cuban develop strategic the salary raise [21] had been higher than raise tobacco price [22], witch mean san opportunity cost because of don't assume an optime tributary position respect to the tobacco control.

In 2011, the smoking cost because o tobacco consumption during the labor time was 696 millions of pesos for the Cuban economy [23]. This example show the importance of the smoking control in workers. However it is important to consider the relevancy from tributary policies applied in Latin America reducing the tobacco consumption and the social cost because of labor productivity lose attributable to tobacco consumption in labor time [24].

Other one subject relate to smoking social cost in Cuba is overmortality. In 2011, 36211 smoker Cuban men didn't arrived to retire age. As group these men died 3.22 years before retire age for close to 250 millions of pesos as cost because of labor productivity lose attributable to smokers earlier death [25]. Also considering the demographic tendency in Cuba [26] and the real need to make longer the effective working agethis cost is higher yet [27].

For all them the Cuban minor market for tobacco is a referency space to apply effective policies to reduce the tobacco consumption and the relative active smoker number too.

By other side, smoking had been determining the real accesibility to health services too. Given that the 11.1% from the Cuban health spend in 2019 was attributable to smoking, then the 88.9% it wasn't. Then, active smokers being the 18.2% from the whole population consumed the 11.1% from the health budget attributable to smoking and the 16.2% didn't attributable to smoking wich represent the 27.3% from the whole health budget. This behavior shows a social distribution of financial resources to attent avoidable morbidity causes

attributable to smoking. Also shows the added financial pressure over the health services demand to cover all health services consumed [28].

The estimation from the smoking economic impact over the Cuban health system suggests a supported growing [29].

As consequence, Cuba is needing a closer vigilance and control form smoking because of economic social cost attributable [30].

Conclusion

Smoking is an important burden for the efficient management of the financial resources from the Cuban Public Health. It influences over this sector also determines the form and quantity from the health services related to smoking.

Bibliography

1. Sánchez González E and Fernández Hernández F. "El rol de las autoridades fiscales en el control del tabaquismo". *Revista de Ciencias Médicas de Pinar del Río* 21.3 (2017): 362-367.
2. Fernández Hernández F and Sánchez González E. "Impacto del tabaquismo en el presupuesto sanitario de Cuba 1997-2014". *Revista del Hospital Psiquiátrico de La Habana* 14.2 (2017).
3. Abascal Winston y Lorenzo A. "Impacto de la política de control de tabaco en población adolescente en Uruguay". *Salud Pública de México* 59.1 (2017): 40-44.
4. García Mayor J., et al. "Prevalencia de tabaquismo y hábitos de vida relacionados con la salud en función del uso del tabaco tras la implantación de la Ley 42/2010: análisis de encuestas de salud en España 2009-2017". *Revista Española de Salud Pública* (2019): 93.
5. ONEI. Encuesta Nacional de Salud (2019).
6. Bardach A. "Carga de enfermedad por tabaquismo e impacto potencial del incremento de precios de cigarrillos en el Perú". *Revista Peruana de Medicina Experimental y Salud Pública* 33 (2016): 651-661.
7. Isaranuwatthai W., et al. "Impact of smoking on health system costs among cancer patients in a retrospective cohort study in Ontario, Canada". *BMJ Open* (2019).
8. Lightwood J and Glantz SA. "The Effect of the California Tobacco Control Program on Smoking Prevalence, Cigarette Consumption, and Healthcare Costs: 1989–2008". *PLoS ONE* 8.2 (2013): e47145.
9. Max W., et al. "The Cost of Smoking in California". *Nicotine and Tobacco Research* (2015).
10. Fernández Hernández F and Sánchez González E. "Estimating the economic burden attributable to some risk factor". *Journal of Clinical Investigation and Studies* 2 (2019): 1-2.
11. Fernández Hernández F and Sánchez González E. "Carga epidemiológica vs carga económica del tabaquismo por morbilidad". *Revista de Ciencias Médicas* 21.2 (2017): 210-216.
12. Fernández Hernández F and Sánchez González E. "Analytic validation of a formula estimating the smoking economic burden". *MOJ Public Health* 9.1 (2020): 5-7.
13. Fernández Hernández F and Sánchez González E. "Algorithm to calculate the smoking economical burden in active and passive smokers". *MOJ Toxicology* 4.6 (2018): 373-375.

14. Ministerio de Salud Pública. "Anuario Estadístico de Salud". *La Habana* (2020).
15. Fabelo Roche J R., *et al.* "Cuestionario de Clasificación de Consumidores de Cigarrillos. Resultados de su aplicación en Cuba, 2017". *Revhabanciencméd* 18.4 (2019): 654-665.
16. Sánchez González E and Fernández Hernández F. "Behavior from the Mortality in Cuba 1990 – 2018". *Journal of Clinical and Laboratory Research* 2.5 (2021).
17. Fernández Hernández F and Sánchez González E. "The Smoking Economic Burden in the National Institute on Oncology and Radiology from Cuba". *Journal of Physical Medical and Rehabilitation Studies and Report* 2.2 (2020).
18. Bonet Gorbea M., *et al.* "III Encuesta de factores de riesgo y actividades preventivas de enfermedades no transmisibles. Cuba 2010-2011. La Habana: Editorial Ciencias Médicas (2014).
19. Fernández Hernández F and Sánchez González E. "Carga epidemiológica vs carga económica del tabaquismo por morbilidad". *Revista de Ciencias Médicas* 21.2 (2017): 210-216.
20. Sánchez González E and Fernández Hernández F. "La relación entre la política tributaria y el control del tabaquismo en Cuba". *Correo Científico Médico* 2 (2018): 238-249.
21. Ministerio de Justicia. Gaceta Oficial de la República de Cuba 118.69 (2020): 695.
22. Ministerio de Justicia. Gaceta Oficial de la República de Cuba 118.73 (2020): 695.
23. Fernández Hernández F and Sánchez González E. "Pérdida de productividad por el consumo de cigarrillos en la jornada laboral". *Revista Cubana de Salud y Trabajo* 18.3 (2017): 9-12.
24. Blanco A. "Diez años del Convenio Marco de la OMS para el Control del Tabaco: avances en las Américas". *Salud Pública de México* 59 (2017): 117-125.
25. Sánchez González E and Fernández Hernández F. "Costo de oportunidad por muerte prematura de fumadores activos cubanos en el año 2011". *Revista Cubana de Salud y Trabajo* 18.2 (2017): 26-31.
26. Rodríguez Gamez G and Albizu-Campos Espiñera JC. "La población de Cuba hoy". *Novedades en Población* 11.22 (2015).
27. Consejo de Ministros de la República de Cuba. Decreto Ley 36/2021". *Gaceta Oficial de la República de Cuba* 51 (2021).
28. Sánchez González E and Fernández Hernández F. "The absolute socioeconomic inequity attributable to smoking". *Clinical Reviews and Clinical Trials* 2.1 (2020).
29. Fernández Hernández F and Sánchez González E. "Impacto del tabaquismo en el presupuesto sanitario de Cuba 1997-2014". *Revista del Hospital Psiquiátrico de la Habana* 14.2 (2017).
30. Fernández Hernández F and Sánchez González E. "The Social and Economic Inequity from Smoking in Cuba". *Annals of Medical and Surgical Case Report* 2.2 (2020).

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