

Research Article

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The Smoking Economic Burden in the National Institute on Oncology and Radiology from Cuba

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ABSTRACT

Background: Cancer is one of the main mortality causes in Cuba. Close all cancer types are related with smoking as risk factor, especially pulmonary cancer. The National Institute on Oncology and Radiology is the Cuban health more specialized institution researching cancer. The real available from economic resources limit the institutional capability to cover all demanded services. The determination of the smoking economic burden in specialized health institution as this will contribute to a better valuation of smoking impact over health services management.

Objective: Determine the smoking economic burden in the National Institute on Oncology and Radiology.

Materials and methods: Theoretical methods: historic – logic, inductive – deductive and systematization. Empiric methods: bibliographic and documental research and an algorithm to calculate the smoking economic burden attributable to smoking.

Results: The smoking economic burden in active smokers by mortality in 2015 in the National Institute on Oncology and Radiology was 30.9% and including passive smokers was 46.4%.

Conclusions: In 2015 the smoking economic burden at the National Institute on Oncology and Radiology from Cuba was very high. This result is according to the high specialization from the health services covered and cancer behavior in Cuba.

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Background

Pulmonary cancer is one of the more significant cancers in Cuba. This mortality cause has a short over life comparing with others cancer type. Also, this cancer type is closest related with smoking as main risk factor associated [1].

The National Institute on Oncology and Radiology (INOR) is the Cuban health more specialized institution researching cancer. This and other similar health institutions had showed a large relation between smoking and cancer as morbidity and mortality cause [2].

Annually are utilized many economic resources to cover all services from INOR. Then, the real available from economic resources limit the institutional capability to cover all demanded services [3].

Researches about risk factor related with each cancer type play an important role. Measure the impact from each risk factor over mortality by cancer will contribute to a better valuation of cancer as morbidity and mortality cause. Thus is possible to apply better strategies preventing and controlling the cancer incidence [4].

Particularly smoking is a socioeconomic risk fact closest related with cancer as morbidity and mortality cause. The determination of the smoking economic burden in specialized health institution as INOR will contribute to a better valuation of smoking impact over health services management in these institutions [5].

Objective

Determine the smoking economic burden in the National Institute on Oncology and Radiology.

Materials and Methods

Theoretical methods: historic–logic, inductive–deductive and systematization. Empiric methods: bibliographic and documental research and an algorithm to calculate the smoking economic burden attributable to smoking.

Results

Smoking economic burden at INOR in 2015

In 2015 died 464 patients in INOR. From them 181 were active smokers. This means that the 39% from these patients were active smokers. At death time these patients were consuming a middle of 24.1 tobaccos at day [6].

The main (close absolute) reason from INOR is cover the health services demanded from oncologists' patients. These activities demand all economic resources from this health institution. Given the closest relation between smoking and cancer, for this research it assumes that the probability of morbidity/mortality related to smoking in INOR is one [7-9].

According to WHO, the tobacco consumption is occasional when the tobacco consumption intensity isn't more than five tobacco at day. Thus, the probability from the effective demand of health services in INOR was 79.2% in 2015. According to previous researches from the authors this means that the smoking economic burden in active smokers in 2015 was 30.9% [7-10].

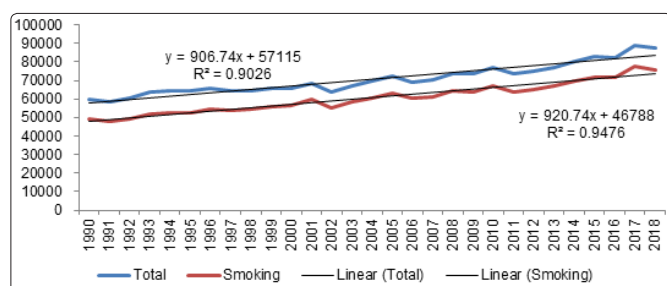
In Cuba the half population is exposed to tobacco smoke. The medical records from died patients weren't sufficient to determine the probability associated to second hand smoke. Then, the researches assume this 50% to complete the information to determine the whole economic burden from smoking in INOR. In this case the smoking economic burden calculated is 46.4% [11].

Discussion

The estimated overmortality in male active smokers in Cuba in 2011 was 18.4 years. This overmortality cost to the Cuban economy close to 300 millions of pesos because of the labor productivity loses associated. However, the most important social cost related to smoking is given by morbidity attributable [12].

From the 10 first death cause in Cuba six are close related with smoking like risk factor. These are: hearth sickness, cancer, brain-vain sickness, flu and pneumonia, chronic sickness from the inferior respiratory ways and vain sickness [13].

In the period 1990 – 2018 the Cuban mortality across these 10 mortality causes raised at 907 deaths annually. By other side, the six mortality causes related with smoking raised at 920 deaths annually as shows the following graph.

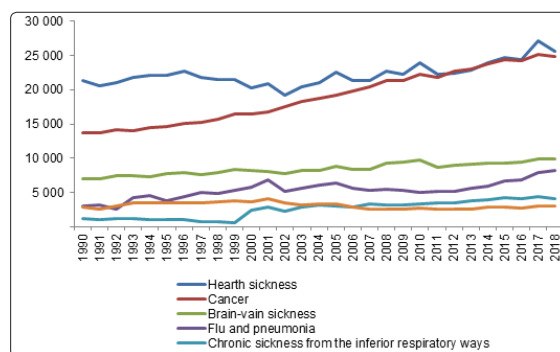


Graph 1: Mortality in Cuba 1990 – 2018

Self elaboration from Cuban Yearbook.

It is very significant that the six mortality causes related with smoking were rising quicker than the 10 together. These mortality causes are related with others risk factor too. Nevertheless given the strong and close relation with smoking as risk factor this behavior is an important motive to research the smoking impact over the morbidity and mortality by cancer.

The single behavior from these six mortality causes at same period is as show he following graph.



Graph 2: Behavior from the six main mortality causes related with smoking in Cuba 1990 – 2018

Self elaboration from Cuban Yearbook.

From these six mortality causes cancer is the more significant. This mortality cause raised at 452 death annually. This means the 50% from all yearly deaths from the ten main death causes and the 49.2% from the six main death causes related with smoking.

In 2011 the smoking economic burden over Cuban Public Health was close three times less to the determined for INOR in 2015. This result is agreed with the high specialization from health services offered by INOR. Also, is showing the importance from the preventives actions to reduce the effective demand of health services to INOR [14-15].

Conclusions

In 2015 the smoking economic burden at the National Institute on Oncology and Radiology from Cuba was very high. This result is according to the high specialization from the health services covered and cancer behavior in Cuba.

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