

Economic Inequity Attributable to Smoking Ratio's for the Public Health

Fernandez F* and Gonzalez ES

Faculty of Medicals Science, University of Medical Sciences of Havana, Cuba

Abstract

Smoking is an important cause of economic inequity for the Public Health sector because of the over demand of Public Health services conditioned by the morbidity and mortality attributable to smoking. The economic disparity caused by smoking carries to big differences in life's expectative and life's quality between smoker and no-smoker. This condition expose a necessity to measure by a ratio being the creation of this ratio the main propose of this research. The ratio suggested is easy to apply and evidences the relative weight of smoking in the Public Health services consumption's. Finally, the created ratio is agreed with the particularities of smoking as risk factor. The practice application of this ratio may measure the economic disparity caused by smoking in the assignation of economic resources to the Public Health.

Keywords: Smoking control; Economic inequity; Tributary policy

Introduction

The economic inequity had been a cause of big interesting for economic, politic and social authorities. Related with the Public Health the smoking is an accumulative and modifiable risk factor which incidence over the distribution of economic resources in the society over dimension the health spends reducing the possibilities for the others social sectors [1,2].

In countries as Cuba smoking constitute an important opportunity cost. This appointment is based in the overuse of economic resources and the loss of economic efficiency in the redistribution of economic resources induced by smoking. Then, measure the economic inequity in case as this it is an important reference to contribute to the smoking control. That's why the use of economic policies to smoking control had been a high important strategic for WHO and several societies [3-7].

The disparity caused by smoking can has a superior qualitative effect that make more difficult to measure it. However this condition makes emphasis in the importance to make null the tobacco and cigarettes consumption as definitive condition to eliminate the smoking consequences. By this way is possible make more efficient the Public Health sector too by a more effective resources assignation [8].

The global economic burden because of smoking determinates the existence of the economic inequity in the resources assignation to the Public Health. The growing in the utilization of health resources by smoker respect to no smokers as cause of morbidities attributable to smoking put an obvious limit to the social ability of economic resources and to the life quality for people too [9-11].

By other side, the support of the Public Health is possible by taxes and other fiscal income. One of these ways is from tobacco industry. However, is unquestionable that smoking carries to higher social cost that put emphasis in the inequity character of smoking [12,13].

Because of these reason, measure the economic inequity because of smoking in the Public Health could value the potential in efficiency that this sector can obtain if the smoking consequences are eliminates too by null the whole consumption of tobacco and cigarettes. Then, have a ratio to measure this type of inequity will may make real valuations of economic disparity because of smoking. Also, this ratio will constitute a point of practice and methodological reference for the accounting estimation of this social phenomenon.

Objective

Create a ratio to measures the economic inequity attributable to smoking in the resources assignation for the Public Health.

Methodology

The teoricals methods utilized were the analysis and synthesis, the comparative and the inductive deductive. As empiric method were utilized the bibliographic research and the documental analysis.

Results

Relation between smoking, the fiscal smoking's cost and the economic inequity attributable to smoking

While smoker grow in tobacco and cigarettes consumption it show more evidence of several epidemiologic transformation in the smoker health that reduce the life quality and increase the health service demands. This is because the direct relation between tobacco and cigarettes consumption and smoking dependence given by the addictive character of the nicotine [14,15].

The addictive level experimented by the smoker demand from that person that for obtain equal satisfaction induced by nicotine, must increase constantly the consumption level. Then, a present consumption level will demand a higher future level of consumption and the tobacco dependence will increase and the leave consumption probabilities will be less every time more while consumption increase [16].

In consequence the health services demand will increase too. This increase is conditioned by an increase of morbidity attributable to smoking in proportion to tobacco and cigarette consumption. Also, the smoker worker will increase the social cost attributable to smoking because of labor productivity loss too [17].

***Corresponding author:** Fe Fernandez, University Professor, Faculty of Medicals Science, University of Medical Sciences of Havana, Cuba, Tel: +5378791313; E-mail: fejh@infomed.sld.cu

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In all cases this situation has a direct influence over the resources ability by fiscal authorities' side putting in evidence a vicious circle between the smoking dependence and the smoking fiscal cost [18].

Since the epidemiologic point of view smokers can be occasional, often or severe. The first group is characterized by low and irregular consumption level of tobacco and cigarettes. This is because the nicotine effects aren't sufficient to establish a strong dependence relation yet.

For this group the low and irregular consumption determinates a low level of morbidity attributable to smoking and a low consumption of health services attributable to smoking too. In consequences, the economic inequity attributable to smoking for the Public Health is low and few relevant too.

The second group is characterized by the sustainable consumption of cigarettes and tobaccos. This characteristic is based on the smoking dependence previously acquired because of addiction to nicotine. This necessity wins in intensity and strange while consumption level grow until the epidemiologic consequences of smoking begin to be irreversible at short time [19].

In this group the grow in consumption level because of smoking dependence determinate a constant grow in morbidity attributable to smoking. In parallel increase the health service demands attributable to smoking and the economic inequity attributable to smoking in the Public Health too.

This group passes by an inflexion point where the fiscal cost dynamic increase relevantly. This point depends mainly from the consumption intensity. While the intensity of consumption increase more, will appear earlier this point in the historic trajectory for consumption. This epidemiologic moment is especially important because establish a point where the economic inequity attributable to smoking for Public Health increase in accelerate way according to the own essence of smoking as accumulative risk factor [20].

The third group it characterize by high level of addiction to nicotine. This strong dependence to tobacco and cigarettes consumption has an unquestionable epidemiologic incidence where the smoking consequences over morbidity are irreversible at short time [19].

In this group the biggest impact is since the epidemiologic point of view. This is because if a smoker abandons the consumption of tobaccos or cigarettes will keep an important morbidity burden attributable to smoking longer than short time, given by the accumulative effect of smoking. For this group the health service demands is higher than the other groups and the economic inequity attributable to smoking in the Public Health too [21,22].

By other side, the sustainability of tobacco industry depends of the systematic consumption of cigarettes and tobaccos. The general strategic from tobacco industry is motive to begin in early age the tobacco and cigarette consumption. This carries to reduce the life expectation and the life qualities too. In consequence the economic inequity attributable to smoking for the Public Health will keep in the society as an evidence of smoking effect over the health, the economy and the society [23].

Ratio to measure the economic inequity attributable to smoking for Public Health

To measure the economic inequity level attributable to smoking for Public Health should be necessary to differentiate between the Public Health spends' attributable and no attributable to smoking. The active

consumption of cigarettes and tobaccos determinates the existence of passive smoking. By then, the global economic burden attributable to smoking and the probability to have an active smoker are the main variables to explain and measure this phenomenon.

This asymmetric level may be determinated by a ratio that will be named in the following as Ratio to measure the Economic Inequity (REI) attributable to smoking for Public Health. Then REI will show the relation between the global economic burden attributable to smoking per active smoker and the global economic burden no attributable to smoking per no-smoker.

To build this ratio it uses the following variables:

- i. REI: Rate to measure the economic inequity attributable to smoking for Public Health.
- ii. N: Population.
- iii. AS: Number of active smokers.
- iv. HB: Health budgets.
- v. BMS: Health spends attributable to smoking.
- vi. BNS: Health spends no attributable to smoking.
- vii. GEB: Probability of the health spends attributable to smoking.
- viii. PAS: Probability to have an active smoker.

Implicitly it supposes that the success to have an active smoker and a no active smoker are excluding and complementary. Since supposes and the variables declared it establish the following relations:

$$HB = BMS + BNS \quad (I)$$

$$BMS = HB * GEB \quad (II)$$

$$REI = \frac{BMS/AS}{BNS/(N-AS)} \quad (III)$$

Substituting the eqns. (II) and (III) the eqn. (IV) and reordering it obtain:

$$REI = \frac{GEB/PAS}{(1-GEB)/(1-PAS)} \quad (IV)$$

GEB and PAS are variables that only accept values positives less to one. Then, REI always will be null or positive. REI only can be null if GEB is null too because GEB's existence determinate the REI's existence because both are directly proportional variables.

PAS and REI are inversely proportional variables. This is because PAS measure the smoker concentration given in relative number. Then, for equal value of GEB if PAS increase, the health spend attributable to smoking per active smoker will decrease and REI will decrease too and vice versa.

The proposed ratio show the relation between the health spend because of smoking by smoker and the health spend no attributable to smoking by a no smoker. This ratio is in correspondance to the dependence relation between active smoking and passive smoking. That's why it uses the active smoking like reference to measure the economic inequity attributable to smoking in the Public Health.

This ratio shows the smoking impact over health services consumption since a socioeconomic point of view. The ratio is easy to apply and evidences the relative weight of smoking in the Public Health services being this an important contribution since a practice

and theoretical point of view. In economic terms the ratio shows how much must be spent by the health sector induced by a smoker in relation to a person to whom morbidity is not attributed to smoking.

Tributary policy and control of economic inequity attributable to smoking

The effective economic policy to control the economic inequity attributable to smoking must be universal and discriminatory at the same time. On one side the expansive tributary policy over tobacco and cigarettes consumption can influence to reduce this consumption according to individual particularities from each smoker of the population researched. On the other side, the tributary policies must be complemented to the tributaries one discriminatorily according to the social sector where they are applied. In this way, the interrelations obtained between both economic policies are complemented to the general strategy to control the economic inequity attributable to smoking [24].

In the short time the feasibility of the expansive tributary policy over tobacco and cigarette consumption to reduce it can be inversely proportional to consumption if in the researched society the severe smokers are majority in the smoker group. In cases like this the tobacco dependence is high because the addiction to the nicotine is high too. Consequently the smoker will be agree to pay more for one consumption unit while the consumption level increases and the tributary policy doesn't obtain the main objective of reducing the tobacco and cigarette consumption. Because of this it is important the effective use of no tributary policy as complement of the tributary policy to reduce the tobacco and cigarette consumption as the main way to reduce the inequity impact of smoking over the Public Health economy [25].

In all other cases the expansive tributary policy over cigarette and tobacco to reduce the consumption will be more feasible while the level and the intensity of this consumption are less. For example, in societies where the occasional smoker is majority, the effect of increasing the price of cigarettes and tobacco is better to reduce the consumption and in cases like this the use of the expansive tributary policy is more recommended to induce to down the economic inequity attributable to smoking in the Public Health level's. Thus, this economic policy can be a strong instrument to control the economic inequity attributable to smoking in the Public Health [26,27].

In all cases, the use of the suggested ratio to measure the economic inequity attributable to smoking for the Public Health will provide a practice instrument to value the in general terms the best application of the fiscal policy in smoking control strategic to minimize the appointed inequity.

Finally, the application of this suggested ratio will put in evidence the socioeconomic importance of the smoking control for the population researched. Particularly the fiscal authorities will have a new instrument to measure the smoking impact over the society and the economy. In this way this ratio can be a practice reference point to take decision in this context.

Conclusion

The suggested ratio to measure the economic inequity attributable to smoking for the Public Health is agree with the particularities of this researched risk factor. The practice apply of this ratio will may measure the disparity level in the use of economic resources from the Public Health sector. This ratio is practice and methodological reference for the economic policy to insider in the economic inequity attributable to smoking for the Public Health.

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