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# Economic Impact Of The Food Tax

## Introduction

According to WHO, the four major non-communicable diseases (NCDs) in the world include cardiovascular diseases, diabetes, cancer and chronic respiratory diseases. Poor diet and obesity are most common preventable risk factor for the occurrence of the NCDs. Globally 40 million deaths occur due to it. While in Australia 90% of the deaths occur due to NCDs [1] In 2015, 19.7% of the deaths and 9.5% DALYs occurred due to NCDs caused by poor diet. [2] According to the Australian Bureau of Statistics, “6 million people suffer from hypertension, 1.7 million have signs for chronic kidney disease, 1 million suffer from diabetes and 600000 Australians have cardiovascular diseases”. [3] Due to increased consumption of the unhealthy food and beverages, the risk of obesity and NCDs are continuously rising. [4] In 2017, 63.4 % of the adult and 27.4% of the children were obese in Australia.[5]

The economic cost associated with NCDs is around \$27 billion in Australia which is about 36% of the health expenditure due to all diseases. About \$8.6 million is due to poor diet-related NCDs. [6] As the poor diet has larger contribution for the NCDs worldwide, this report summarises about how the food tax have been implemented in different part of the world and its cost-effective measure to control NCDs. The information for this report is collected from peer-reviewed journals and articles by database search like Medline, government data and websites from the internet and advanced google search and books from Monash library.

## Risk factors for the NCDs

The major risk factors contributing to NCDs includes of: Poor Diet, alcohol, smoking and reduced physical activity.

### 1). Poor diet

About 7.2-7.9% of the NCDs occur due to it. [7] In the recent era of fast food, the consumption of high-density food rich in saturated fats, sugar, salt and calorie give rise to obesity and overweight. Childhood obesity is major public health concern these days leading to varieties of the chronic illness like cancer, cardiovascular diseases, obstructive sleep apnea and diabetes.[7] Various environmental and behavioural factors play important role in the development of the obesity. Reduced activity, increase in the social media and television usage, parental factors and negative impact by food advertising are identify risk factors for obesity. [8]

### 2). Smoking and alcohol

They contribute around 7-7.2% for the development of NCDs [7]. Environmental factors like family gatherings, clubbing, peer support, mental stress, depression and other mental imbalance can influence people to smoke and drinks. Various strategies like tobacco tax, health warning signs, plain packaging, sales tax on alcohol beverages and ban on the public smoking have significantly impact on the reduction of smoking and alcohol consumption, but still target is

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yet to achieve. [9]

### **3). Reduced physical activity and high BMI**

1.2 to 5.5% of the NCDs occur due to it. [7] Excessive use of social media, increase workload, more time spent in front of the TV have substantially reduced physical activity among people mainly children. Most of the children having both working parents and the bicycle drive to school have been reduced these days. Also, most of the food is fed in front of the television which increase the consumption of Unhealthy and high-density food.[10]

### **Who are at risk?**

Poor diet-related NCDs are not evenly distributed. Various studies have reported that the people with lower education, lower income, low socioeconomic group people, people who are already obese or suffer from chronic illness are at higher risk for the NCDs [11] In Australia, Aboriginal and Torres strait Islanders have double chances for the development of diabetes, cardiovascular diseases and increased cholesterol level with higher risk of mortality compared to the non-indigenous population.[12]

### **Strategies**

The epidemic of the NCDs occurs globally due to the alcohol, smoking and unhealthy diet consumption. As a result, it increases productivity and health care expenditures. Numerous strategies have been adopted worldwide, but the excise tax on this product have proven to be more cost-effective and reduce the overall consumption of these products.[13]

The economic cost associated with smoking is more than \$1.4 trillion globally, while for alcohol it is 2.5% of total GDP and for obesity-related diabetes it is \$670 billion.[14]

### **Smoking Tax**

Globally the excise tax was introduced on tobacco products mainly on those manufactured products. Based on various studies conducted in High income countries reported that 10% increase in the price of tobacco, reduced consumption by 4%, while in lower to middle countries it was about 0.5%.[14] Thus, many studies showed that price increase significantly lowers mortality and morbidity. However, the impact was more profound among the youth and people from lower socioeconomic groups.[15]

In 2016, the Australian government introduced the increase in the tobacco tax by 12.5% and increased the cost of the cigarette packets by 40\$ by 2020. Tobacco Tax has a significant impact on the behavior of the people and have significantly reduced the smoking incidence. [13]

### **Alcohol Tax**

Various studies conducted in high-income countries found that increasing the price of alcoholic beverages to a significant amount can reduce the binge drinking, road traffic accident due to heavy drinking, chronic liver diseases caused by excessive drinking, cancer prevalence and many chronic illnesses can be reduced.[16]

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In High-income countries the demand of alcohol reduced by 0.51 and 0.77 due to increased price while in lower-income countries it is about 0.64[16]

## Food Tax

Excise tax on any items increase the price of the products and reduced the demand among the people. The food tax has been introduced since 1980s in various countries. Food taxes are implemented mainly on the sugar, salt, sugar-sweetened beverages (SSBs) and saturated fat products. Out of all the tax, sugar tax and SSBs has achieved maximum gains and impact the health benefits.[17]

The fig 1 shows the impact of the tax on the sugary beverages and its influence on the behaviour of the people, ultimately reducing the risk of overweight and obesity and NCDs.[18]

FIG 1: SSBs tax and its outcomes

## Food tax across the global.

According to Cabrera Escobar and others, stated that over 26 countries in the world have been successful in implementing the excise tax on the SSBs and other unhealthy food items. [17]

Denmark was the first country who proposed the tax on the soft drinks in 1930, which was again reformed in 2014. Norway also imposed the taxes on the sugary beverages in 90s. Later, Hungary and France also implemented the taxes on the SSBs in 2011 and 2012 respectively.[19]

Mexico, became the first state in US to impose a tax on SSBs as well as on unhealthy food in 2014. One peso per litre was introduced which increase the price of the beverages by 10% and also 8% increase in the price of unhealthy food. [20] In 2015, the city of Berkeley in California implemented the tax on the SSBs by \$0.01 USD, which influenced other states in the US to adopted the taxation on the SSBs.[21] Denmark and Hungary have recently introduced the tax even on the meat and dairy products with high saturated fat content.[22]

In 2016, Australian Government also imposed 20% of the tax on the sugary beverages.[23]

## Effect Of The Food Tax On NCDs And Who Is Most Influenced?

In Mexico, the excise tax on the non-alcoholic beverages by 10% reduced its consumption by 9.7%, while in California it was reduced by 21%. The reduced consumption reduced the incidence of the obesity and NCDs. [20,21]

In Australia, 20% of the SSBs tax reduced the demand of it by 12.6% among the individuals. The prevalence of the obesity was reduced by 2.7% in men and 1.2% in women. [23]

FIG 2: Number of the cases reduced by the SSBs tax in Australia.

Fig 2 shows the that around 600 diabetic cases, 250 IHD and 70 Stroke cases were reduced after the implementation of the SSBs within two years. The net DALY gained due to the food tax

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in Australia is 470000. [23] In India, one of the studies found that SSBs taxes reduced the consumption of SSBs and the substitutes where purchases like water and milk.[24]

Thus, the food tax does influence the behaviour of the individuals toward the less consumption of the unhealthy food and beverages. However, many studies have stated that the many people due to price rise shift to other substitute with less price or other unhealthy products. As the price elasticity varies in the different parts of the world, the net impact of the food tax is less if it imposed only on particular products.

The impact of the food tax was higher among the lower socioeconomic groups. Higher group were less significantly affected due to price rise.[25] One of the Mexico study found that the food tax helped to developed healthy eating habits among the LES group people and as they are more prone to NCDs help to reduce the burden of obesity and NCDs. [20]

## **Economic Impact Of The Food Tax.**

NCDs related to poor diet accounts for \$5.3billions for the health expenditure in Australia in 2015. After food tax the net saving on the direct health cost was around \$3.4billion in Australia. [26]

Food taxes have lots of other economic impact other than health cost. The food tax can affect the government revenues. The amount of the tax collected from the food and SSBs can be utilised for the other public health control strategies. For example, in Mexico the increased in the tax by 10% doubled the rate of the SSBs which reduced the consumption by 12%, but the remaining 88% tax will still be collected and can increase the revenue by 76%.[27]

The food tax can affect the food manufacturers by reducing the sale of their product and leading to economic loss. This can affect the employment of the employees in the company due to recession. This can be a trouble for the government as many food companies can oppose the food tax. But the government can employ this worker for the newer strategies implemented by them from the revenues collected from the food tax.[28]

Also, the most vulnerable group to be influenced by the food tax is the poor people and lower SE group. Due to food tax, the price of the food product increase which reduce the purchase among the LES group people. However, studies have found that the consumption of the unhealthy food and the prevalence of the NCDs was higher among them. Thus, food tax can significantly affect the health benefits among them. [28]

Though lot of the studies have been conducted on the food tax and its economic impact on the health system and health costs, but still lots need to been done to understand the impact of the taxes on the productivity and net benefits.

## **Action plan for the food taxes.**

The program logic model designed below helps to government at national and state level to identify the resources and activities needed for the proper implementation of the food taxes.

Aim: To reduce the consumption of the unhealthy food products and beverages among the

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individuals by introduction of the food tax.

## **Objectives:**

To develop the plan for implementation of the food tax at national as well as state level with the available resources and reduce the consumption of poor diet and prevalence of the NCDs in the country.

## **Further recommendations:**

The burden of the NCDs and the obesity are raising continuously. Price is the main factor contributing to the purchase of the unhealthy food. Varieties of the taxes are been imposed on the food products like sale tax, tax on production, custom duties and excise taxes.

My Further recommendation for the food tax based on evidence are: [28,29]

1. Excise tax should be used as they have higher impact on the health benefits.
2. The excise tax should be such that there is not much difference among different brands hence the people doesn't have much options left to chose from the cheaper brands and reduced the consumption's
3. Tax should be imposed in such a way that food manufactured can not alter the price for better revenues.
4. Regular review and health impact should be monitored, if necessary, it should be increased for better health outcome benefits
5. The tax should be based on the ingredients rather than quantity and volume of the food products.
6. The food tax mainly affects the poor people; hence it should be taken care that they can afford the healthy food. Like in Australia the subsidies are introduced for the fruit and vegetables along with the food tax on the sugar, salt and high-density food, which switch the people to healthy buying options.
7. The increase price due to the tax can warn the people about its dangerous effect on the health, can help in the behavioural change and healthy dietary adaptations.
8. Significant increase in the price is required on certain items which are highly consumed and multiple products should be considered to left the people with no options to consume other than healthy stuff.
9. Large revenues can be collected from the tax which can be used for the various public health program for the better health outcomes.

## **Political influence**

The strong government support is needed for the successful implementation of the food tax in the country. Many factors do influence the tax avoidance inside the government like the public disappointment with the increase tax, pressure from the food companies to avoid the tax and reduced gain of the revenues from the food products.

However, many studies have shown that food tax can significantly impact the health benefit related to obesity and NCDs. Thus, by strong support of the government and regulation for the administration of the tax, we can strongly implement the food tax and reduce the burden of the

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diseases related to it.[30]

## **Conclusion**

The food tax can target the specific products which are unhealthy and can adversely affect the health outcome of the individuals. The excise tax can reduce the consumption of the unhealthy product and can reduced the prevalence of the obesity and number of the NCDs. However, this is not possible without strong political will and public support. Strict regulation and penalties need to be taken into action for proper implementation of the tax. Food tax along with the alcohol and smoking tax can significantly lower the NCDs throughout the world and also the health expenditure can be significantly reduced.

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