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The Economics of Weight Loss

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Abstract

Obesity is now being considered one of the biggest health concerns globally. Ironically, while India records the largest no. of underweight population in the world along with China, it has also been placed in the top five countries in terms of obesity as per a new study by the Lancet Journal. Obesity entails various direct and indirect costs in terms of lower productivity and higher medical expenditure and has the potential to lower economic growth. This paper analyses the need for strengthening government regulations in the weight loss industry. After analyzing the causes of obesity and its negative effects on both health and the economy at large and reviewing the loopholes of the existing regulations in India, certain policy recommendations have been provided.

Keywords

Cardiovascular Diseases, Diabetes, Low Productivity, Obesity

THE ECONOMICS OF WEIGHT LOSS

ABSTRACT

Obesity is now being considered one of the biggest health concerns globally. Ironically, while India records the largest no. of underweight population in the world along with China, it has also been placed in the top five countries in terms of obesity as per a new study by the Lancet Journal. Obesity entails various direct and indirect costs in terms of lower productivity and higher medical expenditure and has the potential to lower economic growth. This paper analyses the need for strengthening government regulations in the weight loss industry. After analysing the causes of obesity and its negative effects on both health and the economy at large and reviewing the loopholes of the existing regulations, certain policy recommendations have been provided.

Keywords: Cardiovascular Diseases, Diabetes, Low Productivity, Obesity.

INTRODUCTION

Obesity is now considered one of the biggest public health concerns facing India. According to the National Family Health Survey (NFHS-4, 2015-16), one-fifth of Indian women (20.7%) in the age group of 15-49 are overweight. The figure has jumped from 12.6% during NFHS-3, 2005-06 when the last survey was conducted to 20.7% (nearly a 60% jump) indicative of the fact that obesity is increasingly becoming a major health concern plaguing our nation. The proportion of obese men has also doubled over the last decade. As per the survey, as much as 18.6 per cent of men (15-49 years) are obese—up from 9.3 in 2005-06.

Treating obesity and obesity related diseases costs lakhs of rupees every year. Manufacturers, sellers, agent's etc. who comprise the selling side of the weight loss industry have been major beneficiaries from the same. Misleading advertisements, asymmetric information, slower economic growth, hazards of obesity on health are few of the many reasons which call for government intervention. This paper will therefore analyse the requirement of strengthening regulations in the weight loss industry in four sections.

The first section defines obesity, its causes and the various hazards associated with it. It also outlines the impact of obesity on production levels. The second section highlights the reasons for the growth of the weight loss industry in recent years. The third section analyses the need for regulations in the weight loss industry. The fourth section enlists the existing regulations in

the industry and finally the fifth section provides future recommendations. The consequences are quantified wherever data was available.

METHODOLOGY:

For the present study, both qualitative and quantitative data were collected from secondary sources viz. several national sample surveys, books, reports, journals, magazines, web journals etc. pertaining to the field.. The collected data was analysed by employing the analytical method of research.

1. OBESITY

1.1 MEANING AND EFFECTS ON HEALTH

As per WHO, overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. The number of obese people are increasing at an alarming rate across the globe.

Adults with a BMI (Body Mass Index) ranging between 25 and 30 are termed as overweight and those with a BMI greater than 30 fall within the obese range, as per Centre for Disease Control and Prevention.

Obesity is a major cause of a multitude of illnesses and therefore demands urgent intervention. Other than leading to higher likelihood of being subject to prejudice, depression, and lower wages in the workplace, obesity can lead to the following health consequences:

- **cardiovascular diseases** (mainly heart disease and stroke), which were the leading cause of death in 2012 globally;
- **diabetes**;
- musculoskeletal disorders (especially osteoarthritis – a highly disabling degenerative disease of the joints);
- some cancers (including endometrial, breast, ovarian, prostate, liver, gallbladder, kidney, and colon).

The risk for these non-communicable diseases also increases, with increases in weight.

(World Health Organisation : Media Centre, Fact Sheet)

Incidence of type-2 diabetes, high blood pressure, cardiovascular diseases, gall bladder diseases etc. have increased tremendously over the years and one of the major causes for the same is obesity. Heart diseases and type 2 diabetes are causing nearly 5.8 million deaths per year (Current Diabetes Reviews, Volume 13, 2017).They accounted for almost 60% of all deaths in 2011. It is estimated that about 44% of the diabetes burden and 23% of the cardiovascular diseases burden can be attributed to overweight and obesity in India[1]. While certain estimates show that as much as 60% of all diabetic cases are attributed to obesity (Runge, 2007). Obesity affects more than 135 million individuals in India with over 69 million people suffering from Type 2 diabetes and this number is expected to rise to 140 million by 2040. The prevalence of cardiovascular diseases is also increasing with percentages as high as 12.6% in some urban areas. Prevalence of hypertension is about 39.2% on an average (48.2% urban and 31.5% rural), the major cause of which is again, obesity[2].

1.2 CAUSES OF OBESITY

According to one study (Current Diabetes Reviews, Volume 13, 2017), Indians have a lower intake of fruits and vegetables as compared to 47 other Non-South Asian countries and are instead associated with high intake of refined cereals like polished white rice, clarified butter (ghee), vegetable oil and coconut oil.

An **economic explanation** to the cause of obesity is as follows. Obesity primarily results from addictive eating behaviour. Higher level of consumption can be regarded as a normal good whose marginal utility declines as its consumption increases. Thus, higher levels of past consumption result in present consumption with a lower marginal utility because of negative health effects. So, if the marginal costs (higher medical bills) exceed the marginal benefits, rational consumers may resort to lower present consumption.

However, higher past consumption is usually associated with higher present consumption. This does not mean that the consumer is not behaving rationally but simply points to the fact that many times, consumers view the benefits of higher present consumption more than the future harm. In this case, people may continue to eat in ways that may be harmful in the long run.

[1] Shrivastava, U, et al. "Obesity, Diabetes and Cardiovascular Diseases in India: Public Health Challenges." *Current Diabetes Reviews* (2017): Volume 13 , Issue 1

[2] Shrivastava, U, et al. "Obesity, Diabetes and Cardiovascular Diseases in India: Public Health Challenges." *Current Diabetes Reviews* (2017): Volume 13 , Issue 1

Both behaviours can be explained economically. The first group of people resort to healthier eating, regular exercising etc. while the second group continues to increase their consumption thereby adding to the pool of obese people. However, to say that individuals rationally choose to consume more while ignoring the cost of discomfort, discrimination, lower income and other social and economic factors points to market failure which has been further elaborated in the next section.

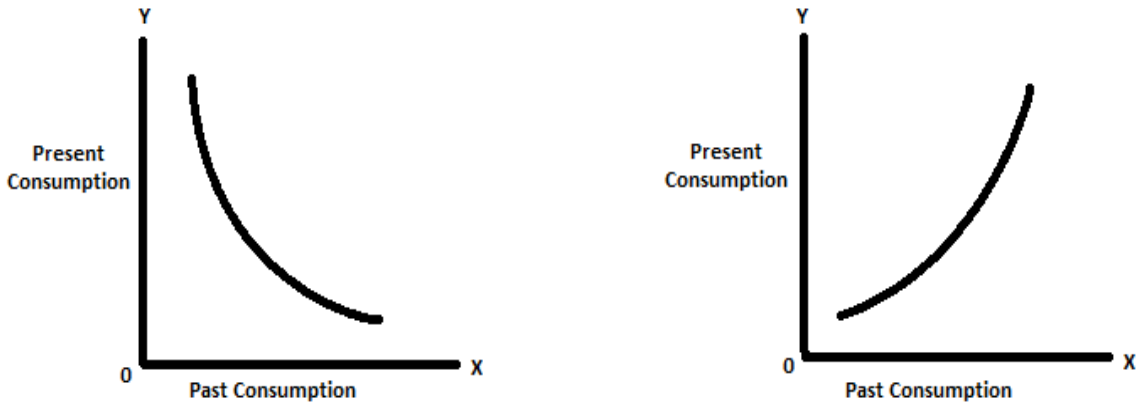

Figure 1

A rudimentary explanation of the above can be explained with the help of these indifference curves. For the first group of people, higher past consumption leads to lower present consumption thus leading to a downward sloping indifference curve. Here, people reduce their present consumption when there is high past consumption to compensate for the negative health effects so that their utility remains the same. However for the second group of people higher past consumption increases the desirability of higher present consumption thereby leading to an upward sloping indifference curve.

1.3 EFFECTS OF OBESITY ON THE ECONOMY

Obesity is associated with both direct and indirect costs. Indirect costs of obesity include the value of lost work, higher insurance premium for those who are covered and lower wages. Days missed are a cost both to the employers in terms of incomplete work and to the employees in terms of lower wages. Obese people tend to miss more days from work and they usually work at less than full capacity. Obese people are also required to pay higher insurance premiums as they face a higher probability of getting chronic illnesses than others. These costs however, are

hard to measure and identify as compared to the direct costs which involve costs of surgery, radiological and laboratory tests, therapy etc.

In India, the annual direct and indirect cost of diabetes which is the most common outcome of obesity was estimated to be 1541.4 billion INR in 2010 (median expenditure incurred by patients on diabetes care annually was INR 10,000 per patient in urban areas and INR 6260 per patient in rural areas). Estimates have shown that nearly **25-30%** of the annual income of low income groups is spent on diabetic care (Current Diabetes Reviews, Volume 13, 2017). In case of complications, the costs increase manifold. In India particularly, inadequate resources and medical reimbursements, insufficient healthcare budgets and socio-economic barriers contribute to the rising cost of diabetes and cardiovascular disease management. As per the data of the National Sample Survey of 2014 (Ministry of Statistics and Programme Implementation) private healthcare in India costs about 4 times more than the public sector yet majority of all cases are treated by the private sector further shedding light on the inadequacy of public medical resources. The cost burden of these non-communicable diseases caused majorly by obesity is likely to double during the period 2010-2030 in India as per CMHI1 and CMHI3 estimates (Commission of macroeconomics and health). In fact as per the global report on URBAN HEALTH: EQUITABLE, HEALTHIER CITIES FOR SUSTAINABLE DEVELOPMENT, jointly released by WHO and the UN Human settlements programme, these diseases can cost our economy **$6.2 trillion** during the 2012-2030 period.

Obese workers experience certain health related limitations in the workplace with respect to the time taken to complete certain tasks and to perform physical tasks. The employers have to bear the additional cost of underperformance and increased number of absences on part of obese employees. Employers of overweight and obese workers face additional costs if they offer health insurance. Obesity related conditions like diabetes, cardiovascular diseases, hypertension etc. not only lead to increased doctor visits each year but also result in many lost workdays amounting to millions of rupees when considered at an aggregate level.

There is a two way connection between obesity and income level. While obesity denies people economic opportunities thus reducing their income; lack of economic opportunities can also lead people to become obese. While the first implication is intuitively clear, the second link requires more explanation. Lack of economic opportunities lead people to obesity because many households when faced with increasing budget constraints alter their food budgets in a way that their calorie intake remains the same or in some cases, even increases. They, therefore

shift to calorie rich sugars, trans-fats and carbohydrates from lean meats, vegetables and fruits. This is especially common among teenagers and young adults who when faced with lower budgets resort to low-cost, high calorie bearing unhealthy substitutes.

In India, individuals tend to develop type 2 diabetes and cardiovascular diseases at a younger age (Current Diabetes Reviews, Volume 13, 2017) thus increasing the risk of morbidity and mortality during the peak years of their productive life.

The productivity level of obese people is already low leading to lower incomes and in addition they suffer from an additional reduction in their income in terms of out of pocket expenses because of increased medical expenditure if they are not covered by insurance. Higher medical expenses along with lower earnings of the bread earner (if afflicted by an obesity related disease) forces many households into borrowing loans and sale of assets thus pushing many of them into poverty. Moreover, most Indians are not covered by any health insurance and therefore involve even higher out of pocket expenses on medical bills when they could have been spent on better education of their children, nutritious meals, higher standard of living etc.

The global annual medical cost of treating serious consequences of obesity is expected to reach $1.2 trillion per year by 2025, as per data from the World Obesity Federation.

As per a study conducted in the National capital of India, Delhi average monthly health expenditure was Rs. 132 among overweight women, Rs 143 among obese women which further increased to Rs. 224 among morbidly obese women compared to only Rs 68 among normal weight women. (Agrawal and Agrawal)

It also affects the expenditures of local, state and national governments wherever the programs compensate for or cover some medical expenditure which are then ultimately pushed to present and future taxpayers.

2. THE WEIGHT LOSS INDUSTRY

We find that rise in obesity rates has been co-incident with rise in the weight-loss industry.

The weight loss industry is made up of companies developing and supporting diet plans, weight-loss supplement manufacturers, diet experts, gyms, gym instructors, obesity doctors, low-fat food makers, low-calorie soda makers etc.

Wellness industry is projected to touch ₹150,000 crore by FY20 as per a FICCI- EY Consulting Report (During FY15, the Indian wellness industry was estimated at Rs 85,000 crore.), thus reflecting the tremendous growth rate one could expect in the weight-loss industry which comprises a sizeable share of the wellness industry.

As per SMERGERS[3], in 2015 the fitness industry specifically comprising of gymnasiums was worth Rs 4500 crore with an annual growth rate of 16-18%. However, one major concern is that the market is dominated by unorganised and independent gym outlets. Organised fitness retail constitutes about 28% of the Industry as a whole with a yearly growth rate of about 22-27%.

Primary reasons attributed to current and expected growth rate of the weight-loss industry:

I. Increases in Disposable Income:

Rising middle class population along with a consistent increase in the personal disposable income of people as represented in the following figure has made fitness services more accessible. With the current trend of growth, weight loss industry is only expected to grow further.

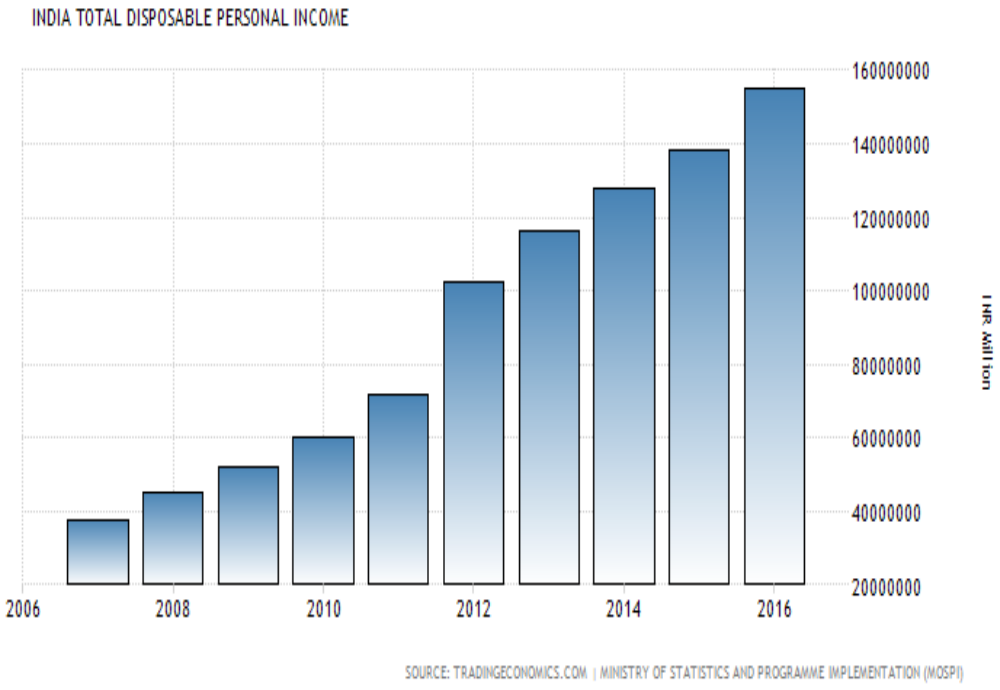

Figure 2

[3] *Smergers: Industry Watch*. 2015. <https://www.smergers.com/industry-watch/india-gym-fitness-industry/>

II. Increasing health concerns:

Rise in the number of chronic diseases and those affected by it has led people to make efforts to adopt a healthier lifestyle. Heart healthy, probiotic, sugar free, fat free, low cholesterol, baked/boiled are some of the common lines we see appearing in product packaging these days simply to tap this growing desire of people to eat healthy. In fact, as per a study by Nielson[4], in the Asia-Pacific region 93% say they're willing to pay more for foods with health attributes to some degree.

3. WHY STRENGTHENING OF GOVERNMENT REGULATIONS IS IMPERATIVE?

Obesity and its consequent effects on health drag down productivity growth rates and take away resources that could be invested in education, technology, social improvements etc. They have shown to affect even robust economies like USA and China. Therefore, the Government has a competitive incentive in terms of higher growth rate to respond to these challenges for economic growth and welfare of future generations.

In addition, two other major reasons why the regulation in the weight-loss industry needs to be strengthened namely market failure and consumer protection are discussed in greater detail as follows:

I. MARKET FAILURE:

Market failure refers to a situation where free markets fail to allocate resources efficiently. Free markets, as bountiful as they may be, will not only provide us with what we want, as long as we can pay for it; they will also tempt us into buying things that are bad for us, whatever the costs. In other words, in market equilibrium and given a profit motive, we should expect firms to offer things that are not in our best interest. Well-functioning markets are supposed to yield the optimal allocation of resources. The prevalence and trend of obesity—which are far from the optimal societal (or individual) outcomes—indicate there is reason to suspect some market failure here. The argument that people are "choosing" obesity rationally seems to be contradicted by the fact that people spend large amounts of time, effort, and money to lose weight, although often

[4]Accessed from: https://www.nielsen.com/content/dam/nielsenglobal/eu/nielseninsights/pdfs/Nielsen%20Global%20Healt%20Wellness%20Report%20-%20January%202015.pdf (We are what we eat: Healthy eating trends around the world, Global Health and Wellness Survey)

in vain. However, the (free) market for food does have one interesting feature: the companies that produce the calorically-dense food also manufacture and sell potential solutions. Ironically, Kellogg's K is owned by Kellogg's etc. The same food companies accused of selling energy-dense food that leads to obesity are also making money from the obesity crisis by selling weight loss products and programs. The dominant economic view is that market failures occur due to three causes: market power, asymmetric information, and externalities. While the market for food is competitive in India and negative externalities are very few, primarily imperfect information leads to market failure, which renders consumers vulnerable. Asymmetric information in terms of marketing through television advertisements etc. to children and teenagers who are not capable of making sound judgements weighing future consequences and of complex and imperfect information which are difficult even for adults to correctly judge. (Karnani, Mcferran and Mukhopadhya)

II. CONSUMER PROTECTION:

The rise of the weight-loss industry and increase in obesity rates is only making consumers more susceptible to believe false claims made by diet food manufacturers, gym experts etc.

Some diets have adverse side effects resulting in medical complications and sometimes death. The government can however only regulate strict requirements to be followed by registered dieticians. This is a problem because the patients are not required by law to follow their close instructions, which leaves them completely corruptible by the false claims and misleading information of the weight loss industry. Misleading broadcast advertising and articles on web claiming things which could potentially affect consumer's health call for strengthening of government regulation.

One such remarkable case was of Smt Divya Sood vs Ms Gurdeep Kaur Bhuhi (RP No. 3467) of 2006. Here, the case was filed on the charges that even after paying INR 10,500 and undergoing the treatment, the consumer did not lose weight. It was only after this that the National Consumer Disputes Redressal Commission brought about the need to control misleading advertisements promising weight reduction (Girimaji).

4. CURRENT REGULATIONS

I. The first phase of the National Program for Control of Cancer, Diabetes, Cardiovascular Disease and Stroke (NPCDCS) was launched by Government of India in 100 districts in 2010, with strong screening and monitoring components, and it was subsequently strengthened in 2013–2014. Further, a programme for adolescent health named *Rashtriya Kishor Swasthya Karyakram* (RKSK) was launched by Government of India in January, 2014 with focus on improving nutrition, mental health, and for prevention of non-communicable diseases. Impact of these programs remains to be researched.

II. National Health Policy 2017 which was cleared in May 2017 plans to increase public health spending to 2.5% of the GDP from the current 1.4% in a time bound manner and guarantees health care services to all Indian citizens. The comprehensive plan includes care for non-communicable diseases majorly caused by obesity. It advocates many other things such as providing free drugs, emergency services etc.

However, a major issue with both of these policies including several others is that the focus remains on curative care rather than preventive care. All technology is being directed at early detection of these diseases. No efforts have been directed at countering the issue of obesity which remains the root cause of all non-communicable diseases. Only one state of India i.e. Maharashtra has passed a directive to ban junk food in school canteens till now.

III. There have been many laws and regulations to prevent misleading advertisements as well. Drugs and Magic Remedies (Objectionable) Act prohibits advertisements perpetrating magical cures for chronic diseases. The Food Safety and Standards Act, 2006 prevents false and misleading advertisements with respect to food etc.

However, no law prevents the advertisements of unhealthy junk food rich in processed sugars and carbohydrates as they are not considered an immediate threat to public health. Moreover, there is no provision of corrective advertisement in case some misleading advertisements had been airing earlier.

5. RECOMMENDATIONS

I. First of all, the view that low income groups and teenagers with small budgets assigned to them, have consistently made wrong food choices and therefore need to be educated, motivated etc. to make healthier choices needs to change. This is because their food choices simply reflect the most cost minimizing way to purchase calories which many times overshoots the normal

level of calorie intake needed to maintain ideal weight. Therefore, what is important is to devise methods to reduce the cost of low fat, protein and nutrient rich food products. This could be through Government subsidies on healthy food products or through imposition of a low maximum retail price at which they can be sold. Another way could be to increase the cost of unhealthy food products through a higher minimum price and through rationing, the exact specifics of which are beyond the scope of this research. While reduction in cost does not guarantee reduced consumption in the short run but will definitely change eating habits in the long run.

II. In the workplace, both exercise and diet should be internalised as a part of the job especially in firms involving desk jobs. This could be done through providing facilities such as gymnasiums, table tennis etc. in the workplace instead of playstation centres and through changing the food menu of office canteens so that they only include healthy food items. In fact, this investment by firms may actually make insurance companies reduce their premiums as a reward to the investment. The break-even results could occur almost immediately with firms having to pay lesser premiums on one hand and insurance companies having to cover lesser expenses because of reduced health risks. As workplace decisions change, the costs facing the public health systems will also reduce thus lessening the burden on Government's current consumption and consequently on the taxpayers.

In fact, as per the Oxford Health Alliance[5], an average return of $3 could be expected for every $1 invested in such programmes by firms.

Here, the Government could play a major role by beginning with these programmes which encourage exercise and healthy diet at public sector offices so as to encourage the private sector to take up these programmes. In addition, if regulations can't be passed to make these programmes mandatory, recommendations could at least be issued to all firms from the Government.

III. However since a large proportion of obese people involve teenagers and young adults, stringent government regulations need to be passed which instead of prohibiting the sale of junk food in educational institutes makes healthier food a more attractive option for teenagers and young adults through lesser cost. In addition, all schools, colleges etc. must compulsorily have a time dedicated to some form of exercise to inculcate a habit of regular exercise among the youth.

[5] *Economic Consequences of Chronic Diseases and the Economic Rationale for Public and Private Intervention.* London: Oxford Health Alliance Working Group, 2015

IV. While policies to prevent misleading advertisements are crucial, efforts should be to educate and develop more critical judgement among media consumers. People must be taught to judge advertisements correctly. Moreover, a provision for corrective advertisement must be included in all laws and policies enacted to prohibit misleading information from being perpetrated.

CONCLUSION

The damage and costs associated with obesity consists of increased healthcare costs, decreased productivity and premature deaths. One of the main causes of all major non-communicable diseases including diabetes, cardio-vascular diseases etc. is obesity. As a preventable health concern, reforms must be made to address obesity through education, media, employers etc. The research has demonstrated the various costs associated with obesity faced by individuals, employers and the economy. Before the costs of obesity become insurmountable, the issue must be confronted through government intervention for regulating the sale of unhealthy food products in ways which does not disrupt the effects of free markets but only corrects the market failure. To make real advances in terms of both better healthcare and increased economic growth, investments in preventive care rather than curative care is crucial. More research is needed on the efficacy of the recommendations provided and other effective methods to prevent obesity from becoming a matter of grave threat to public health and consequently the economy at large.

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