

## **THE ECONOMICS OF OBESITY**

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### **ABSTRACT**

The "New World Syndrome" is a term used to characterise obesity. Its frequency is steadily increasing across all age groups in many developed regions across the world. It's not a societal problem; it's a sickness that's running rampant. Obesity is on the rise among younger generations, posing a serious danger to the economies of all countries. It is one of the deadliest diseases that, if not treated promptly, may have serious effects. As a result, childhood obesity prevention should be prioritised, as there is a danger of obesity persisting into adulthood. There are a number of variables that are hastening the spread of the disease among children and adolescents. These variables have to be made socially aware of individuals so that they may make an informed decision about how to avoid being influenced. Using statistical and collected data, this paper examines the factors that have led to its current prevalence, as well as how it is affecting people's education and daily lives. It also considers the economic impacts of obesity around the world, as well as the government's role in both its spread and control. The factors which are the main reasons driving Obesity in the citizens of the world. The possible treatments for obesity are also sparsely discussed in the paper. The paper comprises a comparative study of the results and economic cost of Obesity between Mexico and India as well. Government's role in controlling and on the contrary even supporting certain drivers of obesity are being elaborated on in the paper.

### **Introduction**

Today's world is tormented with a profusion of complex diseases. People's lifestyles have altered dramatically. There has been a paradigm shift towards integrating non-physical activities instead of focusing more on physical activities. This transition in the lifestyle of people has led to numerous people becoming overweight and in the recent years, even obese. Mexico ranked first in childhood obesity and second in adult obesity according to the country's 2018 National Health

and Nutrition Survey. Obesity itself is linked to numerous other health hazards ranging from blood pressure, heart issues, hypertension, diabetes to cancer as well. Having mentioned that, Obesity also directly links to the severity of being affected by COVID-19. Obesity, in such a scenario has emerged as the global disease of the twenty-first century. Obesity and overweight are frequently confused, so how can one distinguish the two from each other?

Obesity is a condition characterised by the accumulation of extra body fat, which increases the chance of developing health problems. It occurs when one consumes more calories than their body burns through physical activity. Obesity is one of the most evident yet underappreciated health risks today. On the other hand, a person is considered overweight when their body weight is above what is considered normal or healthy for their height.

**The World Health Organisation (WHO) defines overweight and obesity as follows:**

- Overweight is defined as a BMI of 25 or higher.
- Obesity is defined as a BMI of 30 or higher.

Scientifically, conditions such as - Obesity and Overweight are measured using Body Mass Index (BMI), a worldwide measure of a person's body fat based on their height and weight irrespective of their gender. It is computed by dividing a person's weight in kilograms by his height in metres squared (kg/m<sup>2</sup>). For children, their age is taken into consideration while figuring out the BMI.

**However, what explains the enormous increase in obesity over the last 30 years?**

Earlier, individuals liked to do everything without external help. Right from doing family errands to buying essentials, everything was done physically. Be that as it may, time has changed a great deal. Presently, everything gets delivered at the doorstep. Delivery companies, to name a few - Zomato, Swiggy, Urbanspoon and WeFast have contributed to obesity. The most well-known reason for weight gain is unhealthy food propensities. An expansion in the utilisation of shoddy nourishments and chomping in between work hours or habitually prompts weight gain too. Digital marketing and various other marketing strategies acquired by fast-food companies are one of the major drivers of obesity. The second reason for corpulence is a diminishing in proactive tasks. People like to sit in front of the TV as opposed to going on trips and doing actual activities like running, walking, cardio, or yoga. The third explanation is identified with heredity or hereditary qualities. Separated there are different reasons identified with medicine that outcome in weight gain. These factors have led to a parallel rise in child obesity as well.

Marketing and advertising strategies have a greater influence on children. Berry and McMullen [2008], for instance, investigated the items shown in general stores and tracked down that morning meal, oat items with higher-than-normal degrees of sugar, refined grains and trans-fats were more prone to utilise children oriented colour scheme such as shadings including red, orange and yellow (90%);used characters like Kellogg's Tony the Tiger (34%) or used premium offers, for example, toys, games and coupons like McDonald's Happy Meals (35%) in order to attract the children.

However, there are different regular clinical medicines accessible for stoutness. Adjusting to quality food propensities and every day practising can decrease weight. It is critical to adjust to a solid way of life which incorporates administration of nutritious food and exercise to lessen weight. Likewise making individuals mindful of cause and fixes of stoutness can be of extraordinary use as well. The most ideal way to get oneself and family far from heftiness is to have a solid way of life.

The drastic increase in obesity has led for it to emerge as a global obesity pandemic. In such a case, obesity has adverse effects on the economy of nations and education of children as well. On that note, I look forward to investigating that - To what extent the drivers of obesity affect the education of adolescents and economic growth of India and Mexico?

### **Research Methodology**

Data collected directly from the source is referred to as primary research. This implies that the researcher either does the study themselves or hires someone to do it for them. Rather than depending on pre-existing data samples, primary research involves going straight to the source. This sort of study is especially useful when the information gathered must be context-specific.

Under primary research, I used Survey as a method to obtain data for my research.

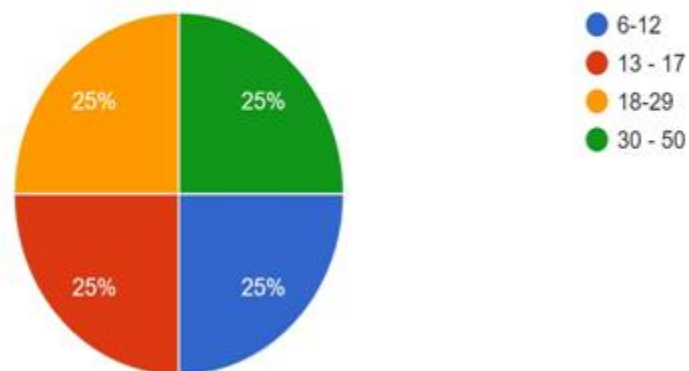
Surveys are most commonly performed online and provide a handy and cost-effective approach when a big number of people must respond. A survey's duration is a delicate balance: if it's too long, participants may become bored and abandon the survey. If the survey is too brief, though, not enough information will be gathered to construct a complete picture. In order to get insight into the study subjects, it typically entails delivering a questionnaire including standardised close-ended and open-ended questions. Because it entails obtaining varied viewpoints in the form of replies to research questions, a survey may be thought of as a sort of opinion sampling in certain ways. This technique of data collection also allows for data aggregation, which can help researchers make better decisions.

Secondary research, commonly known as desk research, is a research process that entails gathering existing data from several sources. This covers internal sources as well as external sources, which are more typically used (such as government statistics, organisational bodies, and the internet). Secondary research can be found in a variety of media, including published datasets, reports, and survey results, as well as on websites, libraries, and museum. The information is typically free — or available at a low cost — and is acquired through surveys, phone interviews, observation, face-to-face interviews, and other methods.

I chose to use both methods to conduct my research as they enable one to develop a compelling case by complementing one another. Although primary sources are more reliable as evidence, secondary sources illustrate how one's work links to previous study. Moreover, I was required to conduct a survey to obtain handy data of India as there was a lack of sources on the internet.

The sample size which responded to my survey was a sample of 40 individuals. I used a combination of convenience and random sampling comprising of 10 individuals from a division of 4 age groups. The survey was circulated through social media.

Select your age group  
40 responses



## Literature Review

**Harvard T.H. Chan School of Public Health:** This news piece talks about obesity in context with the public health of the U.S.A. It shows how income is used to control obesity which is a very important social factor.

**Nutrition and Food Science Journal:** The Journal provided me with data of the various items that are consumed and average consumption value which determines obesity's role in the

economy and in human health. This information will help me figure out what role a certain source of food plays.

**Controlling the environmental costs of obesity:** This article gives an insight on the environmental costs of obesity. It also read about the economic instruments that are used to control the economy thereby, helping me figure out the effect of obesity more precisely.

**Weighing down America:** 2020 update A Community Approach against Obesity: The paper shares information about the different aspects of the impact of obesity in the U.S.A. It also focuses on facts about obesity's role on age and gender with respect to economics which helps in narrowing down the research question.

**India's growing crisis of obesity:** The paper focuses on how India is battling a full-blown crisis of obesity, one which is anticipated only to worsen in the years to come.

**India's obesity doubled in 10 years: NFHS-4:** The article based on the National Family Health Survey highlights that obesity affects urban populations more than its rural counterpart.

**Statista:** The survey report showcases results of a large scale survey in 2020, about 28 percent of teens below the age of 19 years were found to be underweight due to the lack of right nutrition intake. On the other hand, a majority of the respondents above 30 were overweight or obese.

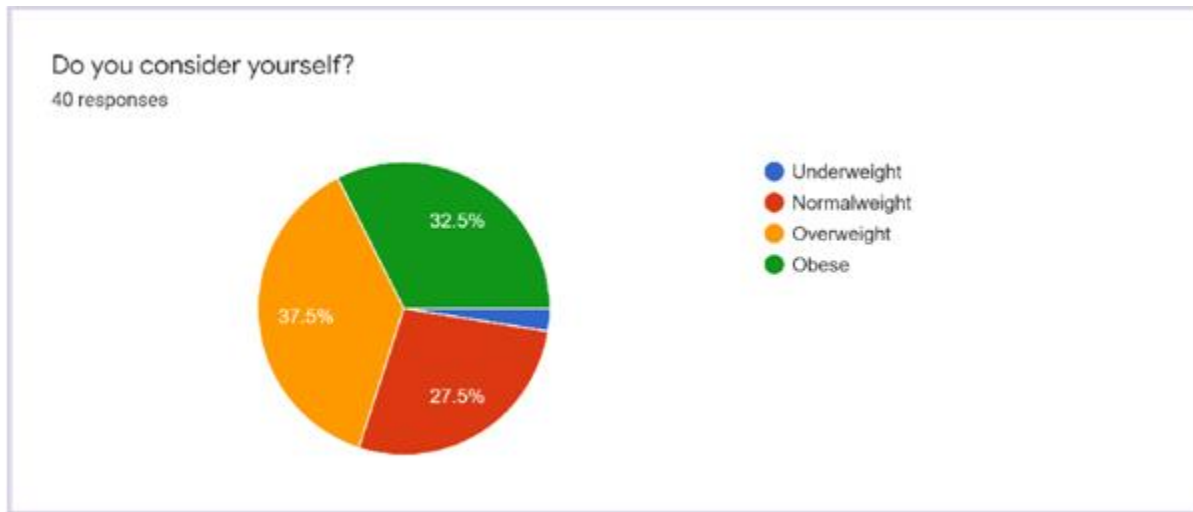
**Annual Review:** Their Annual paper looks into how marketing departments undermine the problems caused due to excessive use of fat in companies covering them up via many marketing gimmicks

**Nutrition Review:** This research paper depicts the role of food marketing in influencing obesity and its limitations.

**Scope Global Obesity Observatory:** The portal provides data and tables of various regions on different criteria. It was used as per my requirements.

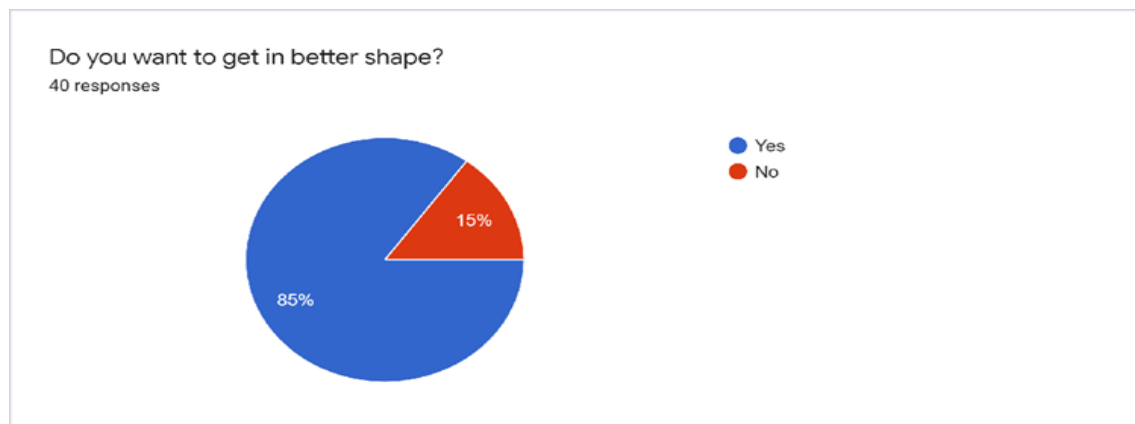
## **Analysis**

### Data Analysis From Survey



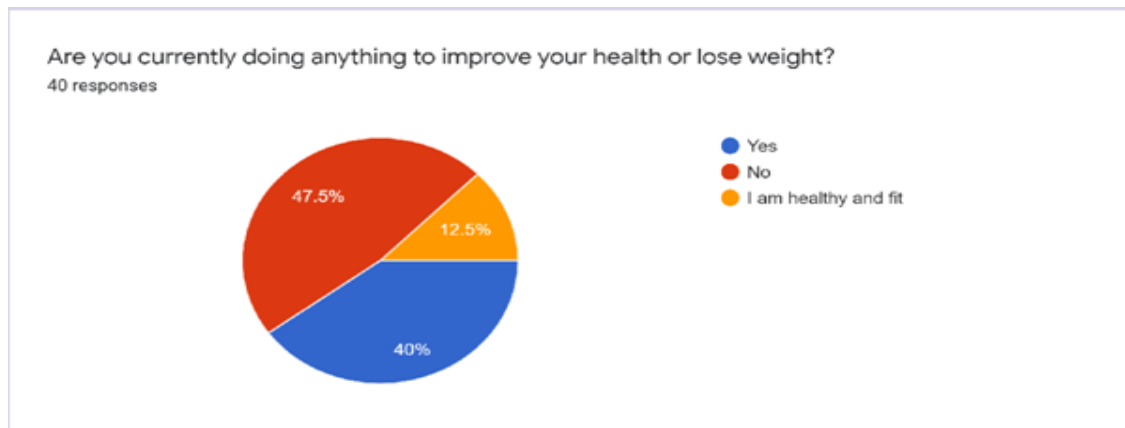
**Observation:** According to the survey out of 40 respondents, 32.5% of them stated themselves to be obese while, 37.5% consider themselves overweight. On the contrary, a very less percentage of 27.5 are of normal weight.

**Cause:** Such a response verifies the prevalence of abnormal weight and unhealthy BMI.



**Observation:** The majority (85%) of respondents agreed that they wanted to get into better shape.

**Cause:** The higher prevalence of obesity has led to a disrupted figure which implies that they are not content with their figure and wish to improve their appearance.



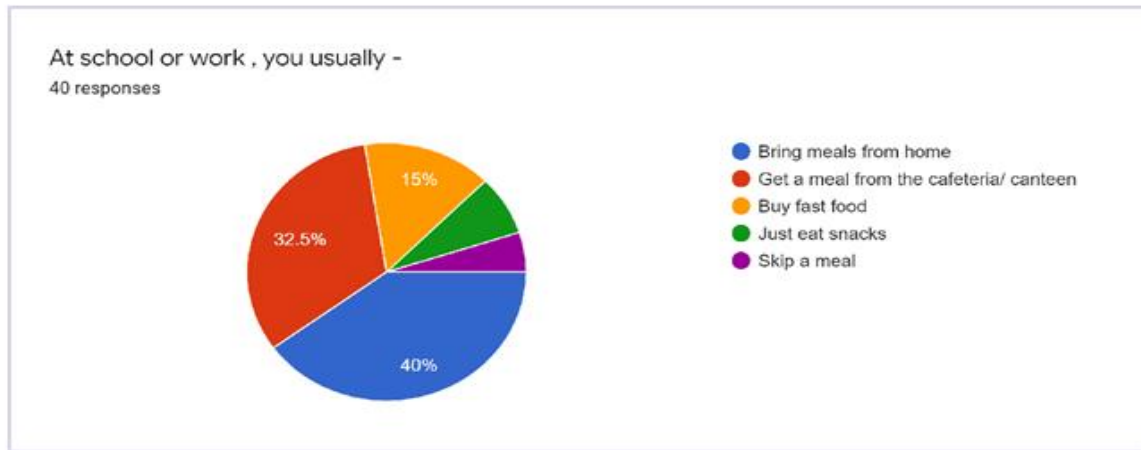
**Observation:** A very amusing response was obtained when they were asked about if they were currently doing anything to improve their health or lose weight. There was a tough competition between people saying Yes and and people saying No. However, the percentile for people stating themselves to be healthy and fit was a minor 12.5% of 40 respondents.

**Cause:** The fact that that maximum people were overweight or obese lead to not being satisfied with their body and hence, making it obvious that they wanted to get into a better shape.



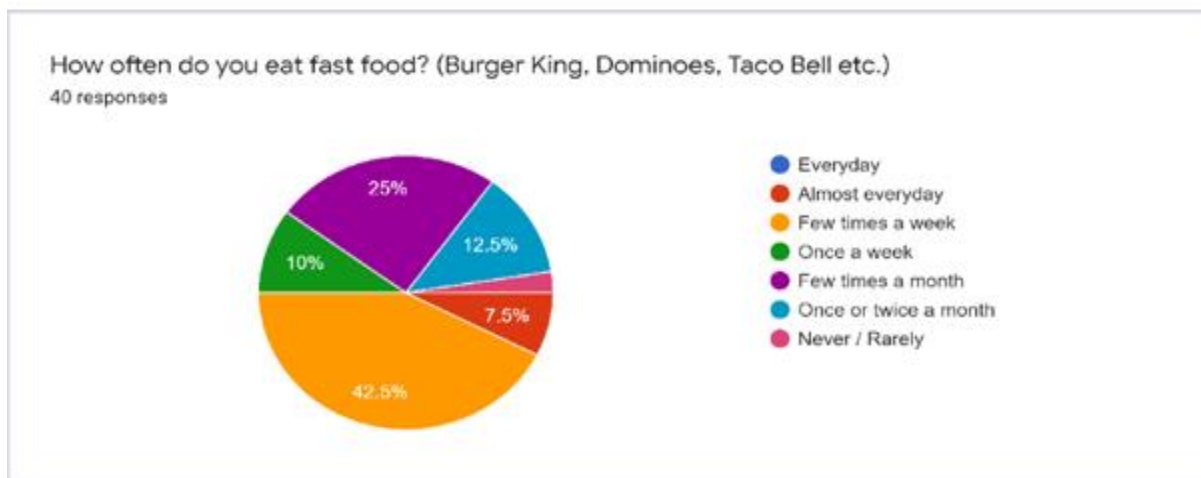
**Observation:** The reasons which came up for not being able to get healthier and fit were very diverse. Maximum number of people said that they lacked motivation and dedication. Whereas there was an equal number of respondents choosing the option saying that money, stress, lack of energy and lack of motivation from friends was a factor.

**Cause:** Such a result indicates that mainly the price range for fitness centres such as gyms and aerobics centres were stopping people from attaining a healthier life. However, familial and social support also plays a major role in a person's health. Therefore, creating social awareness about the dangerous health hazards that might crop up due to obesity is very important.



**Observation:** Although, the response for meals at work or school was inclined towards bringing meals from home, 32.5% of responses chose the option of getting meals from the cafeteria or canteen.

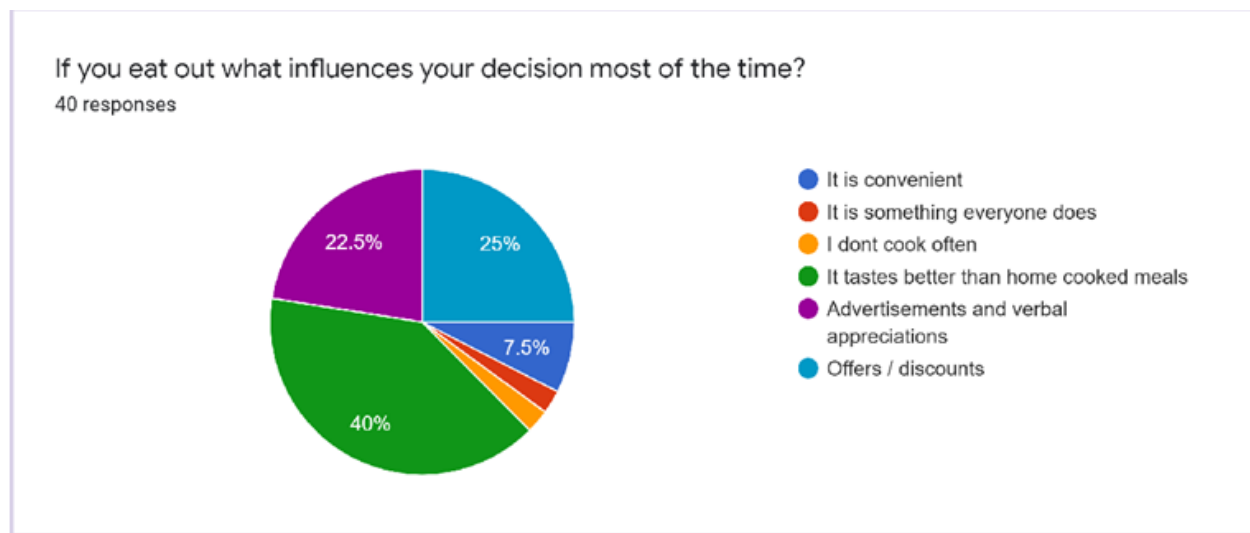
**Cause:** The canteens and other in house work-place kitchens do not serve a very nutritious meal and the beverages there also tend to contain a higher level of sugar or various other sweeteners. Hence, acting as a factor for increasing obesity rates.





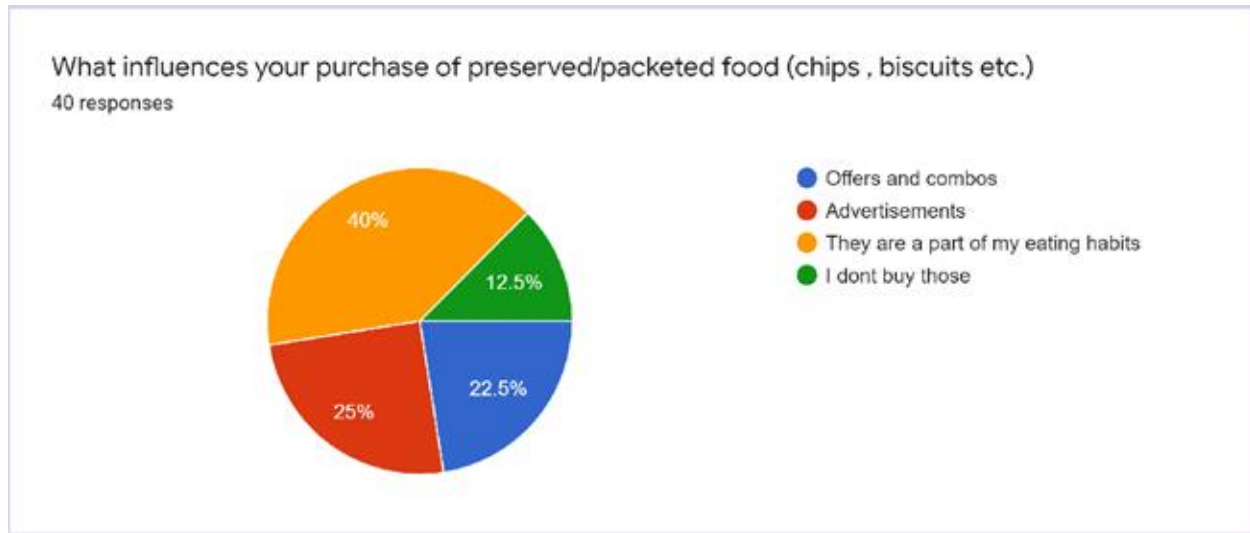
**Observation:** The frequency of people eating fast food was rather high, being few times a week, which supports the hypothesis. The percentage of people having fast food only a few times or once/twice a month was 25% and 12.5% out of 100%.

**Cause:** The use of various different sauces, spices, preservatives and various other such taste enhancing ingredients by fast food chains clearly accounts for the heightened rate of consumption of fast food as a major factor for the increase in obesity.



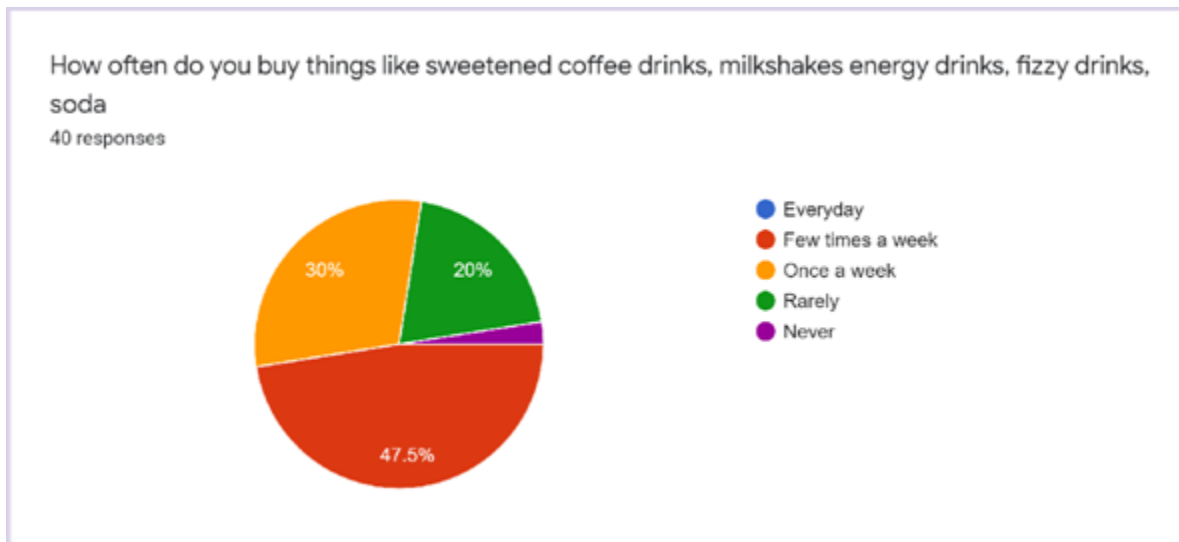
**Observation:** The question inquiring about the factor which influences people's decision to eat out represents that maximum people say that it tastes better than home cooked meals. However a 22.5% of them also agreed that advertisements and verbal appreciations drove them to dining out. Offers and discounts also acted as a great 25% driver for people to dine out.

**Cause:** The promotional strategies and various other deals introduced by brands tempt people to eat junk food, prohibiting them from eating healthy meals thereby, making the unhealthy, junk items affordable and attractive.



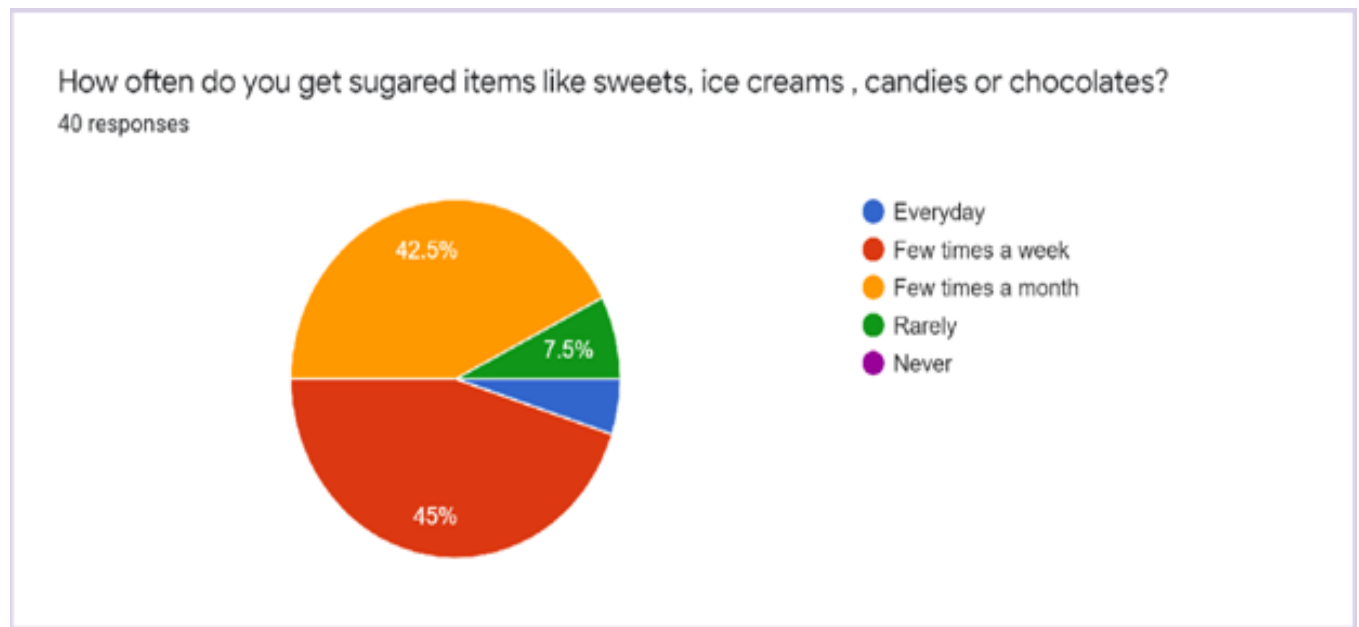
**Observation:** 40% of respondents said that it was a part of their eating habits out of which a major half of them were children between 6- 12 age groups. Whereas, the other half entirely of the working age group of 30-50 said that it was the offers/ combos and advertisements which drove them to buy preserved/ packaged food.

**Cause:** The cause of such a high demand for junk food and its consumption is due to the various marketing and advertising strategies used by brands to propagate their products and increase the demand for their goods in market.



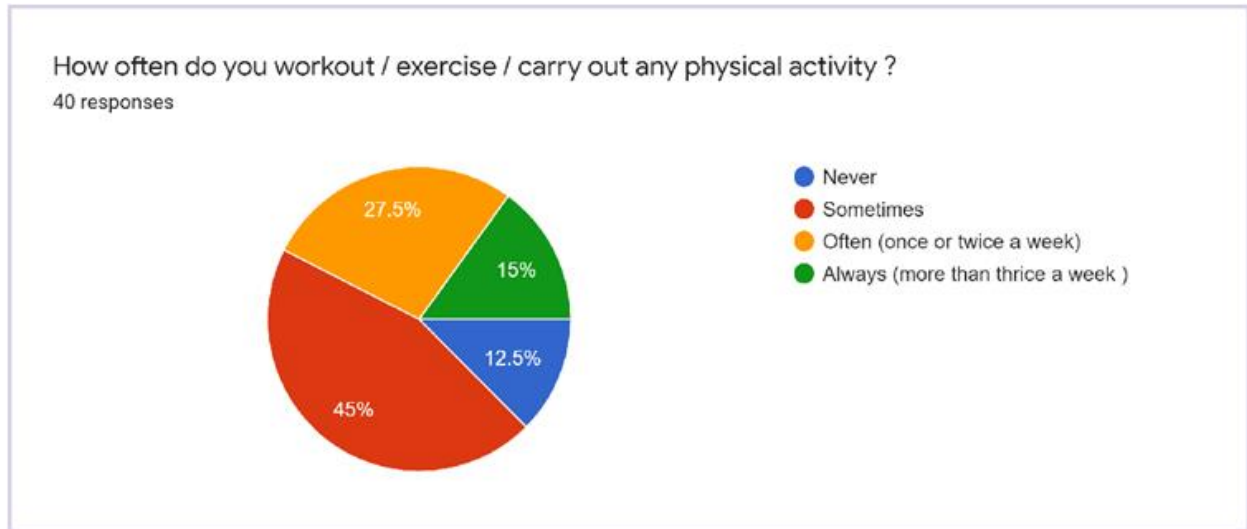
**Observation:** 47.5% of respondents choosing few times a week in regards to consumption of sweetened and carbonated drinks clearly verifies the increase of obesity is due to the unhealthy meals. The majority of youngsters of age group 13-17 chose that option and 18-29 chose once a week. However, the frequent intake of such drinks is harmful for the human body.

**Cause:** The easy availability of such beverages and their sweetened tastes is clearly their strongest driving force of consumers.



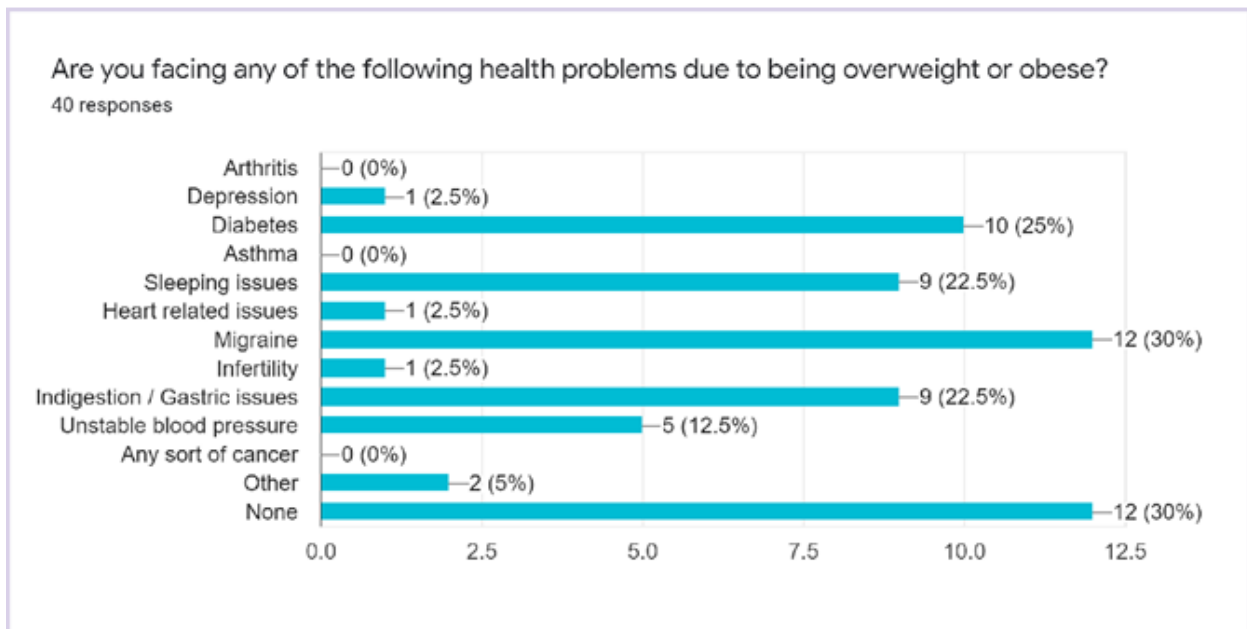
**Observation:** There was nobody who responded to never consuming sweets although there were quite a few people who chose diabetes as a health issue. It was seen that people consumed sweets , ice creams , candies, chocolates etc. very often although they are items with high levels of calories and unhealthy ingredients

**Cause:** The attractive packaging and deals offered by brands can be one of the leading reasons for the sale of such items.



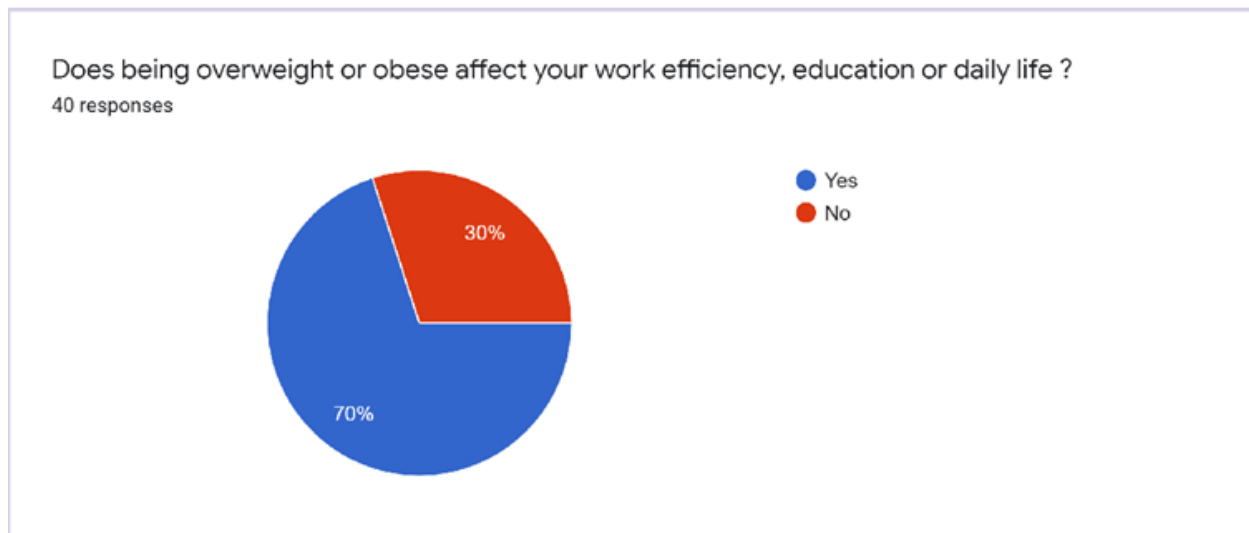
**Observation:** 45%, which is the majority if the responses recorded said sometimes and 12.5% even said never. A comparatively very less number of people chose always which meant a regular workout routine.

**Cause:** The cause for such a physically inactive response might be due to the expensive charges of gym membership. However, it can also be due to the lack of general knowledge about fitness.



**Observation:** Migraine, Sleeping issues, Diabetes and Indigestion were few of the most common issues faced by people due to their unhealthy lifestyle. Younger people of age group 6-17 also had a tendency to show diabetes however, migraine, indigestion and sleeping issues were common for them. On the other hand, the working class of 20-50 had a tendency to show more prevalence of diabetes and unstable blood pressure.

**Cause:** Migraine along sleeping issues at such a young age can be due to the inactive lifestyle and lack of physical exercise in adolescents. The unbalanced nutrients intake in their body leads to such disturbing diseases on a day to day basis.



**Observation:** 70% of the respondents said that being unfit affected their work and a small percentage of 30 said that it didn't. The people choosing 'No' were either normal weight or underweight; however, a major number of students ranging from age groups 6-17 said that it had an effect on their education.

**Cause:** The high prevalence of being overweight and obese has led to people being inactive and physically unfit to carry out a sufficient amount of work thereby , reducing work efficiency.

### **Analysis and Findings**

Marketing communications such as advertising, promotion, branding, nutrition, and health claims can all help to raise a consumer's expectations of the food's sensory and non-sensory advantages. Marketing communications are the most well-known method of persuasion, as well as the one studied most closely by marketing and non-marketing experts. Food marketers

sometimes employ more oblique communication strategies, such as branding the entire product category, the ingredients, and making nutrition or health claims in their ads or on their packages. Many economists support the rational choice hypothesis, which focuses on technical advances that have altered incentives to favour larger food intake, such as lower cost or reduced obesity-related negative health effects. Those who have stressed the importance of environmental signals in eating are on the opposing side of the debate. As a result, greater promotion, new product development, higher portion sizes, and other food marketing methods have created adjustments in the underlying demand for total food calories, according to this paradigm.

For example, the famous brand , ‘McDonald’s’ became the leader of the fast-food industry by how it targets families and children, portraying the restaurant as a fun place to spend time with your family. Some commercials claim that children ``always have a friend with big red shoes." They focus on advertising towards children between the ages of 2-5, and 6-11 years old. Children playing with their Happy Meal toys and singing "food, persons, and fun" with Ronald McDonald in a McDonald's commercial promotes their concept of ‘Happy Meals’. McDonald's was proven to be the "biggest distributor of toys in the world" with Happy Meal Toys. Focusing on children's advertising - including toys – results in 20% of their sales. McDonald's distributes 1.5 billion toys worldwide, according to reports In 2009, a research was published that looked at their favourite fast-food restaurants and the reasons why they prefer them. McDonald's was chosen by 37% of children, with 87 percent of 6-7 year olds and 80 percent of 8-9 year olds stating that they "enjoy getting a toy with their meals." In fact, even Walt Disney ceased working with McDonald’s because they were concerned about childhood obesity and didn't want to be associated with fast food. There have been worries that this strategy has contributed to childhood obesity.

This study paper will explore the present epidemic of child and adolescent obesity caused by some firms' marketing and advertising methods. However, it also tries to assess the long-term repercussions of this worldwide epidemic, as well as the many other factors that contribute to obesity.

There are now two basic theories for rising calorie consumption: one is based on rational choice, and the other is based on structural factors. Many economists advocate the rational choice explanation, which focuses on technological changes that have shifted incentives to favour higher food intake, such as decreased pricing or reduced obesity-related adverse health impacts. Those who have emphasised that eating is sensitive to environmental cues are on the other side of the argument. Overeating, according to this paradigm, is the result of increased advertising,

new product development, larger portion sizes, and other food marketing tactics that have caused shifts in the underlying demand for total food calories.

Government, however, plays a rather very important role in such marketing allowances and strategies and brands. The tax gained from the sale of these products allows the government to give leeway to such brands to market and advertise their products on a larger scale. Infact, the subsidies given by governments to both consumers and producers help the brands produce and sell more of the products. The subsidies enable people to buy more of such products in bulk as it gets reasonable and cheaper than other food products. The increase in the consumption leads to health hazards which directs more money towards healthcare. The government plays a huge part in the healthcare section of the society. It gains a lump sum amount of money from the healthcare and treatment sector which indirectly fills the government's pocket.

The fact that the obesity pandemic didn't spread like wildfire across countries, but instead simmered and flourished year after year, has made it even more difficult to resist, because its causes have gotten so entwined in the social, environmental, and governmental fabric.

Nonetheless, attempts to reduce obesity, particularly via prevention, are gaining headway, albeit slowly. Positive change must come from all sections of society, including governments and schools, companies and non-profit organisations, neighbourhoods and communities, and people and families, in order to make true progress. We must alter regulations and create an atmosphere in which the healthy option is the default option.

Obesity prevention policies and environmental change efforts should, according to evidence, focus on promoting a few essential behaviours:

- Limiting unhealthy meals and beverages (refined grains and sweets, processed meat and sugary drinks)
- Physical exercise should be increased.
- TV, screen, and other "screen and sit time" should be limited.
- Improving sleep quality
- Stress reduction

Apart from personal precautions, despite the numerous benefits of the government, the serious threat to the economy due to increasing health hazards in the world's population has driven

governments to impose indirect taxes and restrictions on the promotions of such fast food chains. For instance, Excise taxes on sugar-sweetened beverages are an effective evidence-based approach for preventing noncommunicable diseases (NCDs). They are a strategy for achieving the Sustainable Development Goals, alongside tobacco and alcohol excise taxes, and are suggested by the World Health Organisation to reduce behavioural risk factors related with obesity and NCDs, as outlined in the WHO Global Action Plan.

Sugar-sweetened beverage taxes have been dubbed a "triple win" for governments since they enhance population health, produce income, and have the potential to lower long-term healthcare expenditures and productivity losses. Sugar-sweetened beverage taxes have been enacted in more than 73 nations throughout the world. It discusses economic issues such as the economic justification for sugar-sweetened beverage taxes and the expenses associated with obesity; essential tax design concerns such as tax kinds, bases, and rates; and an overview of potential tax revenue and earmarking; evidence on how these taxes are expected to affect prices of taxed beverages, demand for taxed beverages, and substitution to non-taxed beverages.

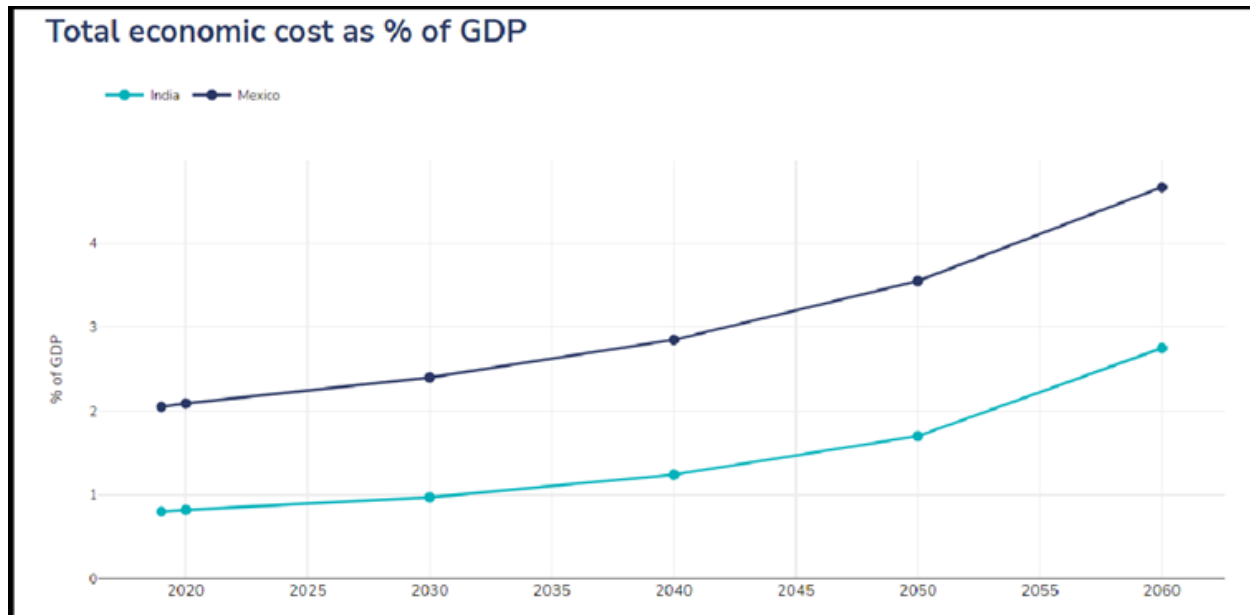
The UK government had also prohibited TV advertisements for sugar, salt, and fat-rich foods before 9 p.m. Chocolate, burgers, soft drinks, cakes, candies, ice cream, biscuits, sweetened juices, crisps, chips, and pizzas are all impacted. There were new limits for internet promotion as well, although companies selling junk food were permitted to continue to operate websites. Last year, a blanket ban on internet advertisements was planned, but following consultation, it was cut back. The television limitations came after Boris Johnson declared obesity, which affects more than a quarter of UK people, a government priority. However, food corporations argued that banning all junk food advertising, which was worth hundreds of millions of pounds a year, is unreasonable as they have to face serious loss and drop in sales.

Such government steps along with various other forms of awareness campaigns have to be taken into account in order to control the obesity epidemic, The continual growth of it may affect the growth and development of many nations in various different ways.

### **Comparison**



## Mexico Versus India



I chose to compare Mexico and India as Mexico was ranking first in the most obese countries as of 2016 when the Mexican Government took actions to control the fast increasing rate of obesity in the country. Whereas, India is my home country and obesity cases here are also gradually increasing with more people adapting to the unhealthy lifestyle. The varying factors in terms of obesity prevalent in both the countries piqued my interest to work on these two regions specifically.

As it is visible from the graph, a predicted rise in the total economic cost in Mexico and India due to obesity clearly shows the adverse effect it will have in the near future. Overweight and obesity have become increasingly common in India in recent decades. Given the link between overweight and obesity and a variety of noncommunicable illnesses, projections of future prevalence of overweight and obesity can aid policy making in a country that houses around one-sixth of the world's population. Whereas, Mexico has been the leading obese country in past years until restrictions and taxes were imposed by the Government. Due to increasing rates of diabetes and obesity, Mexico issued an epidemiological alert in 2016. Overweight or obese children and adolescents account for one-third of Mexican children and adolescents. This is far from a coincidence, as Mexico is Latin America's greatest consumer of ultra-processed foods, especially sugary drinks. Preschoolers consume the most of these goods, accounting for around 40% of their daily calories. Childhood obesity has an impact on children's growth and

development, as well as their risks of developing illnesses as adults, such as type 2 diabetes and cardiovascular disease.

Food product reformulation that has been properly executed might encourage better lifestyles while gradually transitioning individuals to healthier diets. By 2050, a 20% reduction in calories for foods high in sugar, salt, calories, and saturated fats could prevent 1.4 million noncommunicable diseases in Mexico, might save 1.99 billion Mexican pesos per year in health costs, and increase employment and productivity by the equivalent of 71 thousand full-time workers.

As per the predicted economic cost for both, Mexico and India, the cost continues to increase steadily for both the countries. However, the rise is more for India as compared to Mexico. Cases of abnormal weight are rising in India but can be controlled if necessary measures are instantly taken. On the other hand, Mexico's condition is on improvisation as the cases have dropped over the span of time. However, obesity continues to remain a severe danger in most regions around the globe.

### **Conclusion**

To summarise, Obesity is a huge public health problem since the health consequences are severe. Obesity is influenced by both controllable and non-modifiable factors. Obesity management focuses around food and physical exercise, so staying fit is essential. Obesity is increasing today and will continue to ascend unless we do something about it, such as raising awareness about how serious it is and encouraging people to adopt a healthier lifestyle. Many obese are also found to have breathing difficulties. Asthma might develop if the problem is left untreated. It is one of the most deadly health problems directly related to cardiovascular health issues.

Obesity's psychological repercussions are also a big issue. Obesity and depression are inextricably linked. The more fat a person gets, the worse his or her sadness becomes. In such a scenario, opting to consume a well-balanced diet and following a healthy dietary plan can turn out to be a blessing. According to the survey conducted, avoiding buying meals from fast food chains or getting a meal from cafeterias and canteens can also curb the rise in BMI. For urban developing areas, adopting means such as walking, cycling or any other such activity to go for work may also incorporate physical activity in the body thereby, improving the environment as well the economy. Obesity can be avoided by eating a nutritious diet, balancing the intake of glucose, carbohydrates and fats as well as exercising two to three times each week.

In a situation like an Obesity pandemic , the government's role plays major importance and hence, exercising taxes or even organising healthcare campaigns to create awareness amidst the locals of the health dietary plans can be of great help for both - the personal benefits of the citizens and the economic improvement of the nation. National surveillance, obesity education and awareness, grant-based food subsidy programmes, zoning for food access, school-based nutrition programmes, dietary recommendations, nutrition labelling, and food marketing and pricing laws have all played a part in the government's response to obesity and if implemented with greater seriousness can control the wide spreading disease.

The next step of research regarding the Bariatric surgeries, effects of obesity on children's education along with exploration based on a variety of evidence-based preventative and clinical care initiatives and policies are few ways that have a chance to solve the problems faced by today's generation with regards to their health and development, personally and economically.

### **Acknowledgement**

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Besides my advisor, I would like to thank all the participants who responded to the online survey. The survey was of great importance for the research's generalizability and analysis due to the lack of data resources.

My warmest thanks to my family members and friends who have constantly given their valuable inputs for the betterment of the research and remained a support throughout the project.

Obesity has been termed as an "epidemic,"- its growing global concern piqued my interest. I was constantly thinking - "What are the causes of childhood obesity?" and "How does it affect a child's education?" Moreover, whilst there are several academic papers on adults, there are few resources on children. I faced difficulty focusing on specific regions owing to the credibility of accessible data, and was suggested to look at government websites. I've been researching theoretical aspects on scholarly websites, articles and research papers. I planned on using secondary sources, but while exploring, I realised that a self-conducted survey might improve the results.

### **Bibliography**

- *America's Obesity Crisis - Milken Institute.*  
[milkeninstitute.org/sites/default/files/reports-pdf/Mi-Americas-Obesity-Crisis-WEB.pdf](http://milkeninstitute.org/sites/default/files/reports-pdf/Mi-Americas-Obesity-Crisis-WEB.pdf).
- Dewi, Nikmah Utami, et al. "Obesity Determinants and the Policy Implications for the Prevention and Management of Obesity in Indonesia." *Current Research in Nutrition and Food Science Journal*, 28 Dec. 2020,  
[www.foodandnutritionjournal.org/volume8number3/obesity-determinants-and-the-policy-implications-for-the-prevention-and-management-of-obesity-in-indonesia-2/](http://www.foodandnutritionjournal.org/volume8number3/obesity-determinants-and-the-policy-implications-for-the-prevention-and-management-of-obesity-in-indonesia-2/).
- "Digital Marketing." *World Obesity Federation*,  
[www.worldobesity.org/resources/policy-dossiers/pd-2](http://www.worldobesity.org/resources/policy-dossiers/pd-2).
- Frederick J. Zimmerman Department of Health Services. "Using Marketing Muscle to Sell Fat: The Rise of Obesity in the Modern Economy." *Annual Reviews*,  
[www.annualreviews.org/doi/10.1146/annurev-publhealth-090810-182502](http://www.annualreviews.org/doi/10.1146/annurev-publhealth-090810-182502).
- "Harvard T.H. Chan School of Public Health." *Obesity Prevention Source*,  
[www.hsph.harvard.edu/obesity-prevention-source/](http://www.hsph.harvard.edu/obesity-prevention-source/).
- "India's Obesity Doubled in 10 Years: NFHS-4." *Down To Earth*,  
[www.downtoearth.org.in/news/health/nfhs-4-highlights-india-has-become-obese-more-than-doubled-in-one-decade-only-52527](http://www.downtoearth.org.in/news/health/nfhs-4-highlights-india-has-become-obese-more-than-doubled-in-one-decade-only-52527).
- Keller, Chris R. "How McDonald's Became the Leader in the Fast Food Industry." *How McDonald's Became The Leader In The Fast Food Industry - Marketing Strategy*,  
[profitworks.ca/blog/541-how-mcdonalds-became-the-leader-fast-food-industry-marketing-strategy](http://profitworks.ca/blog/541-how-mcdonalds-became-the-leader-fast-food-industry-marketing-strategy).
- Luhar, Shammi, et al. "Forecasting the Prevalence of Overweight and Obesity in India to 2040." *PloS One*, Public Library of Science, 24 Feb. 2020,  
[www.ncbi.nlm.nih.gov/pmc/articles/PMC7039458/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC7039458/).
- "Obesity." *Obesity | National Health Portal Of India*, [www.nhp.gov.in/disease/non-communicable-disease/obesity](http://www.nhp.gov.in/disease/non-communicable-disease/obesity).
- "Public Health and the U.S. Economy." *News*, 19 Feb. 2014,  
[www.hsph.harvard.edu/news/magazine/public-health-economy-election](http://www.hsph.harvard.edu/news/magazine/public-health-economy-election).
- Published by Statista Research Department, and Jul 8. "India: Body Mass Index by Age

Group 2020.” *Statista*, 8 July 2021,  
[www.statista.com/statistics/1119493/india-body-mass-index-by-age-group/](http://www.statista.com/statistics/1119493/india-body-mass-index-by-age-group/).

- “Read ‘Bridging the Evidence Gap in Obesity Prevention: A Framework to Inform Decision Making’ at Nap.edu.” *National Academies Press: OpenBook*,  
[www.nap.edu/read/12847/chapter/12](http://www.nap.edu/read/12847/chapter/12).
- “Sugar-Sweetened Beverage Tax.” *World Obesity Federation*,  
[www.worldobesity.org/resources/policy-dossiers/pd-1](http://www.worldobesity.org/resources/policy-dossiers/pd-1).
- Watts, Kerean. “India's Growing Crisis of Obesity.” *Health Issues India*, 11 Oct. 2019,  
[www.healthissuesindia.com/2019/10/11/indias-growing-crisis-of-obesity/](http://www.healthissuesindia.com/2019/10/11/indias-growing-crisis-of-obesity/).
- “What Are We Waiting for?” *UNICEF*, 4 Mar. 2020, [www.unicef.org/stories/what-are-we-waiting-for-obesity-mexico](http://www.unicef.org/stories/what-are-we-waiting-for-obesity-mexico).