

### **Junk food:**

(a) (noun) 'food that is high in calories but low in nutritional content'.

(b) (noun) 'something that is appealing or enjoyable but of little or no real value'.

— Merriam Webster Dictionary

### **What is junk food?**

Any food that is high in fat, sodium, oil and/or sugar content is junk food. Having little nutritional value, junk foods are empty calories. They lack micro-nutrients like vitamins, minerals, amino acids and fibers.

Most junk food falls into the categories of either 'snack food' or 'fast food'. Popular snack foods are usually commercially prepared and packaged, such as chips, cheese puffs, candy bars, snack cakes and cookies. Burgers, French fries, pizzas, colas and energy drinks are some of the other more popular Western junk food. Indian food is not without its share of junk either — samosas, kachoris, bread pakodas, packaged bhujia, Maggi noodles, momos, tikkis and bhaturas top the list. Most of these are fried food products with various fillings within an outer layer made of refined flour (*maida*).

Ironically, though some foods may be prepared with healthy ingredients like vegetables, they are still 'junk'. Consider a pizza loaded with a thick vegetable topping: the 'junk' factor in it comes from the cheese sprinkled over the vegetables. Excess cheese is not good for health; to add to it, there is the pizza base, made out of refined flour, which contains empty calories.

The burger, a favorite of a majority of junk food lovers, contains meat and vegetables; the 'junk' in it comes from the refined flour that is used to make the buns, and the mayonnaise and butter that are added to the filling.

### **Why is junk food popular?**

Junk food is popular because it is tasty (and hence, induces overeating), packaged attractively and heavily advertised with freebies for children.

### **Junk food market in India**

According to a National Restaurant Association of India (NRAI) 2010 report, the fast food industry in India is currently estimated at Rs 6,750 crore to Rs 8,000 crore, growing at a compound annual growth rate of 35-40 per cent annually.

A major chunk of this market is ruled by global players like McDonald's, Yum! Brands (Kentucky Fried Chicken, Pizza Hut), Dominos, Subway, Taco Bell, Coca Cola and Barista. However, domestic players are not lagging behind. Nirulas, US Pizza, Pizza Corner, Kaathi Zone, Haldiram's, Bikanerwala, etc control a fair share of the fast food market. After making a mark in tier I cities, these brands are now targeting India's tier II and tier III cities.

**The biggest irony of junk food is that it renders healthy food unhealthy: vegetables, for instance, are the principal ingredients in many junk foods. In a pizza loaded with vegetable toppings, the cheese sprinkled over the vegetables is the junk, while the pizza base, made out of refined flour, contains empty calories**

Junk foods are high visibility products: easily available almost everywhere, extensively advertised through every media, these foods find a key target group among children. Their manufacturers and sellers also take recourse to attractive packaging and addition of food additives and colors to enhance flavor, texture, appearance and shelf life.

Fast food chains are used as props for promoting movies as well: McDonald's Happy Meals now comes with a Ra.One robot (from Shah Rukh Khan's latest superhero flick) miniature toy. In fact, luring children with cartoon and animated characters has been a long-standing strategy — from Shrek (green-colored Shrek glasses had to be recalled as they contained cadmium) Wall-E and Kung Fu Panda to characters from Toy Story.

In 2010, McDonald's was sued by the US-based Center for Science in the Public Interest (CSPI) for selling plastic figures of the animation film Toy Story, on the grounds that they lured children into McDonald's restaurants, where the children were likely to order food which was too high in calories, fat and salts.

## How does eating junk food affect our health?

Junk food induces overeating, which leads to obesity. A study published in the September 2009 issue of *The Journal of Clinical Investigation*, showed that the fat from fatty foods can affect the brain before it settles on the hips. The study, by Deborah Clegg, assistant professor of internal medicine at UT Southwestern, suggests that when we eat something high in fat, the brain gets 'hit' by the fatty acids; the fat molecules induce the brain to send messages to the body's cells, warning them to ignore the appetite-suppressing signals from leptin and insulin, hormones that are involved in weight regulation<sup>1</sup>. Since the body does not get the signal that it is satiated, this leads to overeating.

Since junk food is high in fat and sugar, it has been held responsible for obesity. Obesity can lead to a number of health problems, ranging from diabetes to cardiac diseases, and from hypertension to gall bladder disorders and depression.

In India, **obesity** has become an epidemic. A study by the Organization for Economic Cooperation and Development (OECD), published in *Lancet* in November 2010, looked at the burden of overweight citizens in six countries — Brazil, China, India, Mexico, Russia and South Africa. It found that between 1998 and 2005, India's overweight rates (where the Body Mass Index or BMI is greater than 25 kg/m<sup>2</sup> and less than 29.9 kg/m<sup>2</sup>) increased by 20 per cent.<sup>2</sup>

But in a move that is far more dangerous, obesity is now passing on to the next generation: childhood obesity is on the rise. A study published in science journal *PLoS One* in February 2011, which examined the prevalence of overweight and obesity among urban Indian adolescents in New Delhi, has shown that while one in five adults is obese, about 20 per cent of children are either already obese or overweight (precursor to adult obesity).<sup>3</sup> The prevalence of obesity increased significantly from 9.8 per cent in 2006 to 11.7 per cent in 2009. The study also showed that there was a significantly higher risk of being overweight and obese in year 2009 than in 2006, and that 29 per cent of Delhi's urban private school-going adolescents were overweight or obese.

According to India's Third National Family Health Survey (2005-06), 12.6 per cent women surveyed were overweight and 2.8 per cent were obese (a BMI of above 30 kg/m<sup>2</sup>), while among men 8 per cent were overweight and 1 per cent obese. The highest rates of overweight and obesity have been observed in the epidemiologically and nutritionally advanced states of Punjab, Kerala and Delhi which, incidentally, also demonstrate a higher risk and burden of **non-communicable diseases (NCD)**.<sup>4</sup> Increased intake of

**Children are especially vulnerable. What they eat from puberty impacts their risks of contracting diseases such as prostate and breast cancers, or osteoporosis and hypertension**

**Junk food-rich diets can lead to slower physical growth, lower IQ levels, decaying of teeth, obesity and a host of other debilitating conditions**

## Junk food and trans fats

Trans fats are bad for health. They are especially bad for the heart, as they reduce the amount of good cholesterol (HDL). They are also found to increase the risk of breast cancer and infertility in women along with diabetes and Alzheimer's disease. A large proportion of the population in Indian sub continent is identified as genetically predisposed to cardio vascular diseases (CVD), and the risk is compounded due to the consumption of vanaspati oil and TFAs.

Vanaspati/PHVO, shortenings, stick (or hard) margarine, cookies, crackers, snack foods, fried foods (including fried fast food), doughnuts, pastries, baked goods and other processed foods made with or fried in partially hydrogenated oils are sources of trans fats.

A study by the National Diabetes, Obesity and Cholesterol Foundation in 2007 revealed that Indian fast food has higher TFA compared to western food because of the kind of oil, vanaspati (hydrogenated oil), used.

While trans-fatty acids (TFA) in French fries (per 100 gm) is 4.2-6.1 per cent, it is 9.5 per cent in a bhatura, 7.8 per cent in a paratha and 7.6 per cent in a puri. The culprit here is the vanaspati oil that is high on trans fats. Take that away and Indian food looks good. A puri cooked only in vanaspati has 8.6 per cent TFA content, which comes down to 5.5 per cent when cooked in a combination of vanaspati and refined vegetable oil. Similarly, non-use of vanaspati can bring down the TFA content in a bhatura from 9.5 per cent to 3 per cent.

In 2009, CSE's Pollution Monitoring Lab tested 30 samples of branded cooking oil. The samples comprised vegetable oils such as soybean, sunflower, mustard and coconut, partially hydrogenated vegetable oils or vanaspati, desi ghee and butter. The results showed that trans fats in seven leading vanaspati brands were five to 12 times the two per cent standard set by Denmark. Denmark is the only country that has any norms on trans fats.

### Still no regulations

Since then, many more reports on trans fats and what they do to our health have been published; the unanimous opinion seems to be that food containing trans fats should be banned in the country. India has labeling laws on trans fats. The Food Safety and Standards Authority of India, the apex food regulatory body, has proposed setting the limit of trans fats to 10 per cent and reducing it to five per cent in three years. But the norms are yet to be notified by the Union ministry of health and family welfare.

edible oils and fats, low fruit and vegetable intake, increased consumption of processed foods and salts, and sedentary lifestyles have been blamed for the rising cases of NCDs.

Like obesity, *diabetes* too has acquired epidemic proportions in the country. According to a study published in the Lancet in June 2011, diabetes affected nearly 350 million people in 2008 (a number which had doubled since 1980). While 70 per cent of the rise was because of population growth and aging, obesity accounted for the other 30 per cent<sup>5</sup>. The dramatic increase has been blamed by scientists on the increasing popularity of a Western-style diet, leading to rising levels of obesity.

Type-2 is the most common type of diabetes, accounting for about 85-95 per cent of the cases, and is often linked to obesity. It develops when the body fails to produce enough insulin to break down glucose, inflating blood sugar levels. According to a report by the Public Health Foundation of India, 51 million Indians are currently suffering from diabetes, while 87 million may contract the disease by 2025. Between 9 and 30 per cent of Indians have impaired glucose tolerance (IGT), a likely indicator of further future increases in the disease burden.

Annually, 0.1 million die due to diabetes alone<sup>6</sup>. In India, the prevalence of diabetes increased from 8.3 per cent in 1989 to 11.6 per cent in 1995, and to 18.6 per cent in 2006. This marked an increase of over 70 per cent.

Several other health impacts of junk food have now begun emerging. Doctors at Harvard University and

## What about sugar and caffeine?

Trans fats are not the only bugbears in fast foods. In 2003, 2006 and 2011, CSE's Pollution Monitoring Laboratory conducted studies on soft drinks and energy drinks, and found high levels of caffeine and sugar in them. While diets high in refined sugar can promote tooth decay and obesity, leading to increased risk of diabetes, high blood pressure, stroke, and heart disease, large caffeine intake can lead to impaired muscle and nerve functions, dehydration and a host of other disorders. Despite the well-documented impacts that sugar and caffeine have on our health, there is little happening to control their levels in our foods.

As per the CSE study on pesticides in soft drinks, an average bottle of soft drink (300 ml) contains about 15 gram of sugar — that is about five teaspoons of sugar. It is highly unlikely that an average individual would eat five teaspoons of sugar at a time; but by downing a bottle of soft drink, that is exactly what we end up doing.

The Joint Parliamentary Committee (JPC) looking into the case of pesticide residues in soft drinks had pointed out that, keeping in view the vital issue of the health of the people, the revision of standards on soft drinks has to be an ongoing and regular process. But this is clearly not happening; soft drinks remain unregulated, and instead, food laws in India continue to pander to industry's whims and desires.

Take energy drinks. The Rs 200-crore market is unregulated and has no cap on its caffeine content. The Central Committee on Food Standards (CCFS) had set a standard of 145 ppm for caffeine in carbonated beverages as a safe limit. Most energy drinks sold in the market have caffeine more than double this limit. And they do not have proper labeling indicating the caffeine content on their packs.

The Food Safety and Standards Authority of India (FSSAI), our custodian for safe and healthy food, has set up an expert committee on energy drinks. This committee, based on a literature review, has recommended fixing caffeine standards in energy drinks at 320 ppm. This is in clear violation of the spirit of the findings and recommendations of the JPC.

the University of Murcia, Spain, have found that junk food can lead to poorer sperm quality and infertility in young men, even if they are physically fit and in good health. In particular, participants who consumed high levels of trans fats, naturally found in fried foods, had the worst quality sperm.

Children are an especially vulnerable group. Studies show that as early as the age of 30, arteries could begin clogging and lay the groundwork for future heart attacks. What children eat from puberty affects their risks of **prostate** and **breast cancers**. **Osteoporosis** and **hypertension** are other diseases that appear to have their roots in childhood, a time when lifelong eating habits are being formed.

Poor diets, with junk foods as ingredients, can slow growth, decay new teeth, promote obesity and sow the seeds of infirmity. Foods with low nutritional value tend to reduce IQ levels. Many junk foods are laced with artificial colors which are often **carcinogenic** and harmful to the body. These foods and their colors can affect the digestive system, the symptoms of it emerging after many years. Studies have found that food coloring can cause hyperactivity and lapses of concentration in children.

## What is the world doing about junk food?

On January 21, 2011, the World Health Organization (**WHO**) recommended a ban on junk food in schools and playgrounds in order to promote healthy diet and tackle child obesity.

**The UK had** banned junk food in its schools in 2005, but the ban was revoked in 2010 by the Conservative-Liberal Democrat combine government led by David Cameron. The government's decision to dismantle the Food Standards Agency (FSA) received flak and was seen as buckling under corporate pressure. The FSA had been pushing for a Europe-wide "traffic light system" that required food companies to label the front of their products with red, amber or green symbols to denote the amounts of fat, saturated fat, salt and sugar contained in each serving. UK consumer advocates are now calling on their government

to explore provisions allowed under the new EU regulations on food information to make sure the traffic light labelling is used on all food products.

**The US** passed a bill in December 2010 banning junk food in schools; elementary schools in Arizona, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Nebraska, New Jersey, New York and West Virginia have already banned the sale of junk food in schools until at least after lunch. **Mexico** banned junk food in all of its public, private and elementary schools in May 2010. This was a part of its nationwide anti-obesity campaign.

**The United Arab Emirates** banned junk food and soft drinks in all schools in Abu Dhabi in 2010. In **Canada** too, the Ontario state government banned candies, chocolates, fries, pops and energy drinks inside school premises in September 2010.

**Hungary** has imposed a tax on food that is high in sugar, fat, carbohydrates and salt. A tax has also been put on carbonated beverages, alcohol and drinks with high caffeine levels (such as energy drinks). **Denmark** has followed suit by imposing a high tax on junk food. The surcharge will be levied on food items like butter, milk, cheese, pizza, meat, bacon, ice cream and processed foods if they contain more than 2.3 per cent saturated fat. According to the new taxes, consumers will have to shell out about 20 per cent more for a packet of butter and a little more than half a Kroner (1 Kroner = US \$01.7) for a packet of chips. Nearly 40 per cent of the Danish population is overweight, while nearly 12-15 per cent is obese; the European average is about 15 per cent. The government hopes that by imposing taxes on junk food, it will be able to fund the increased healthcare costs of treating the obese population. Also, the high prices will dissuade people from eating these foods.

Apart from Hungary and Denmark, other countries in Europe too have experimented with similar taxes. **Switzerland** and **Austria**, along with Denmark, have banned trans fats, while **Finland** and **Romania** are considering heavy taxation.

With nearly 24.5 per cent of its population being obese, Britain faces the biggest obesity problem in Europe. According to the National Obesity Forum, a group working on raising awareness on growing impacts of obesity, it is estimated that if similar steps (as in other nations of Europe) are not taken, then by 2050, nearly 70 per cent of the British population will become obese or overweight, affecting not just the national health services but also the workforce. **Brazil**, **Mexico** and **Taiwan** too are working towards getting a high taxes in place.

Other countries like the **US**, too, have been toying with the idea. The Obama administration has, despite some efforts, failed to introduce it. Nearly one third of the US population is obese; obesity afflicts approximately 17 per cent of its population of children and adolescents (between two and 19 years of age).

## What is our policy on junk food?

India does not believe in higher taxes. In 2005, the government formed a national committee to implement the WHO's recommendations on diet, physical activity and health in India. The concept of high taxes was a crucial part of the discussion, but the government did not move forward on any of the recommendations.

In 2006, the then Union health minister Anbumani Ramadoss was planning to ban junk food and colas in school canteens and near school premises across the country. The minister had said: "Junk food and colas are not good for children's health. Hence the sale of such products should be banned within the school premises. The health ministry is discussing with the Union human resources development

**Uday Foundation's 2010 PIL in the Delhi High Court asked for a ban on junk food and carbonated drinks in schools and for measures to discourage the availability of fast foods, unhygienic foods and foods with unhealthy ingredients within 500 yards of a school. It also pleaded for a comprehensive school canteen policy, which would emphasize on healthy nutrition among school-going children, and a ban on junk food and carbonated drink advertisements in print and television media**



ministry on how to implement the ban in government schools if not the private. A massive campaign making children aware of this will be launched.” This well-meaning plan remained restricted to being an announcement in newspapers and television channels, and never came into fruition.

The minister’s comment indicated that he had chosen to ignore the private schools, though these schools led in sales and consumption of junk foods on their premises compared to government schools which provided freshly-cooked mid-day meals. For a brief period, these mid-day meals had become endangered owing to the efforts of another minister (former minister for women and child development Renuka Choudhary), who wanted packaged foods like biscuits to replace the hot cooked meals; thankfully, she did not succeed.

At the Tenth Conference of Central Council of Health and Family Welfare (under the Union ministry of health and family welfare) held on January 30, 2009, some resolutions on junk foods were adopted. These resolutions expressed concern about the increasing consumption of junk food, especially among school and college students. The Council also resolved to urge states to take appropriate steps to discourage promotion, availability and consumption of junk foods, particularly in education institutions and to undertake an active awareness campaign to promote healthy diet and lifestyle.

But this too was merely lip service. With nothing being done, the judiciary seemed to be the only recourse. Delhi-based Uday Foundation, a non-governmental organisation, filed a PIL at the Delhi High Court in December 2010. The petition asked the court to pass decisions to ban junk food and carbonated drinks in schools and to initiate measures to discourage the availability of fast foods, unhygienic foods and foods with unhealthy ingredients within 500 yards of a school. The petitioners also pleaded for a comprehensive school canteen policy, which would emphasize on healthy nutrition among school-going children, and a ban on junk food and carbonated drink advertisements in print and television media.

The High Court has asked the Food Safety and Standards Authority, which accepted in principle that there is a need to ban junk food in schools, to give a complete plan of action on what steps are being taken by schools and colleges to keep junk food out of their premises.

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