

**Introduction to Maternal Infant Young Children Nutrition**  
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**Health and Nutrition**  
**Indian Institute of Technology, Bombay**

**Lecture - 15**  
**Session - 3**

**Junk Food**

This week we learnt about so many different micronutrients, we learnt about magnesium, potassium, vitamin D, calcium and we have to understand that nowadays the food that we eat specifically when youngsters are eating lot of outside food, ultra-processed food, ready-made food and we have to know that it is not healthy, they are devoid of a lot of those nutrients, they are devoid of micronutrients, they are high on starches, they are high on bad fats, omega-6 loaded oils, some of them have trans-fat.

And a lot of sugar and salt I mean very salty a lot of sugar, so we have created these two tutorials, one is on junk food and other one is on why junk food has kind of increased in a community. So, do watch them, a lot of things we have, a lot of times we feel that, if we make something at home, then it is healthy and a lot of communities like in Gujarati people love to have Farsan and they love to have sweets, but please understand that even if it is made at home but if the ingredients are not right and the cooking techniques are not right, then it is not necessarily healthy.

So, just kind of use good techniques in a sense if you want to use oil, use some stable oils to fry, do not use maida, do not use rice starch, use some more healthy grains or millets, millets are really good and also I have explained what happens when you have a lot of sugar, sugar is basically one molecule of glucose and one molecular fructose.

So, I have shown very specifically what happens and insulin resistance is one more important aspect that I have mentioned a little bit in junk food. And because of insulin resistant not only we have risk of diabetes, but we also have risk of high blood pressure. So, all these lifestyle disorders are because we are eating not right kind of food.

So, what happens in young children what I see in community, they start with biscuits, Marie biscuit, Parle-G biscuit by the time they are four months, three months old and that junk food continues to increase in the diet, so they would spend 5 rupees on junk food but they would not use 5 rupees to buy say one cup of dahi or maybe eggs. So, it is important to understand what are these junk food, how they are made, what does it, what does it include. So, let us watch it and learn about it, thank you.

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# Junk food

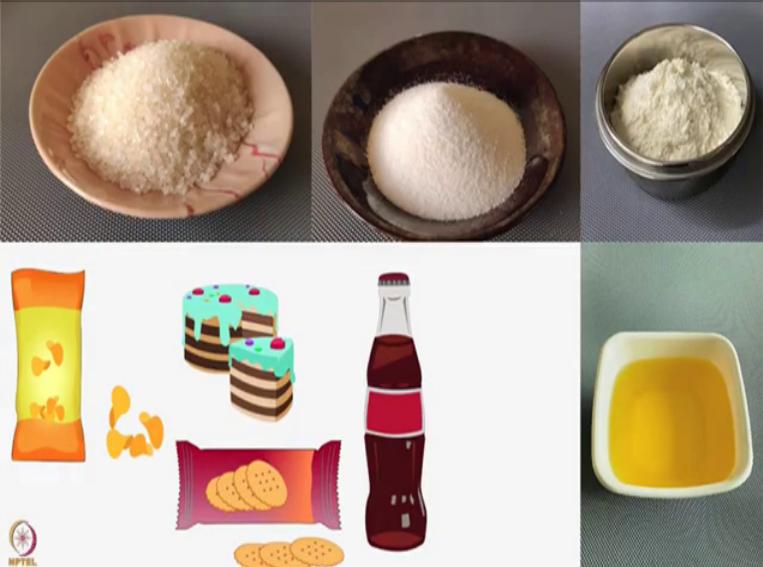
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**Script and Narration: Misbah Samir**  
**Graphics and Animation: Bhairav Lahotkar**

**IIT Bombay**  
**7 March 2020**



NPTEL Misbah Samir Junk food

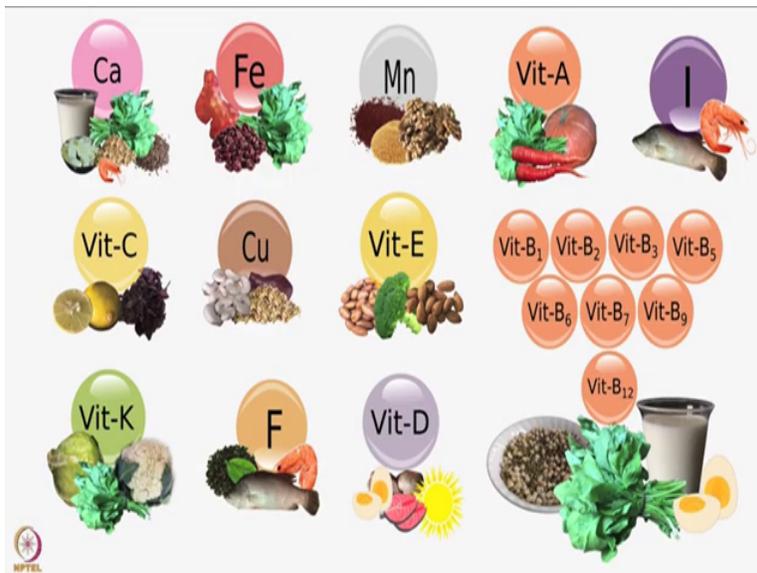






Welcome to the spoken tutorial on junk food. In this tutorial we will learn about contents of junk food and harmful effects of junk food on our body. Any food can be considered as junk food depending upon three factors. First two factors are ingredients and the method of cooking.

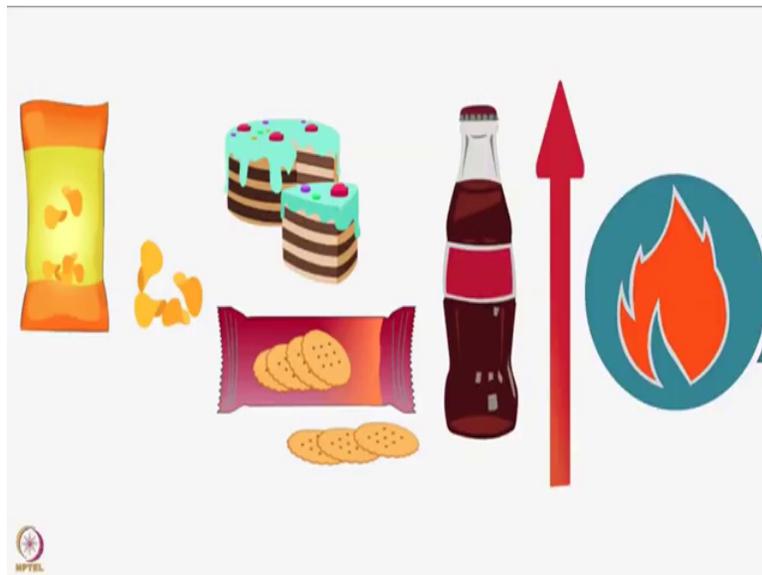
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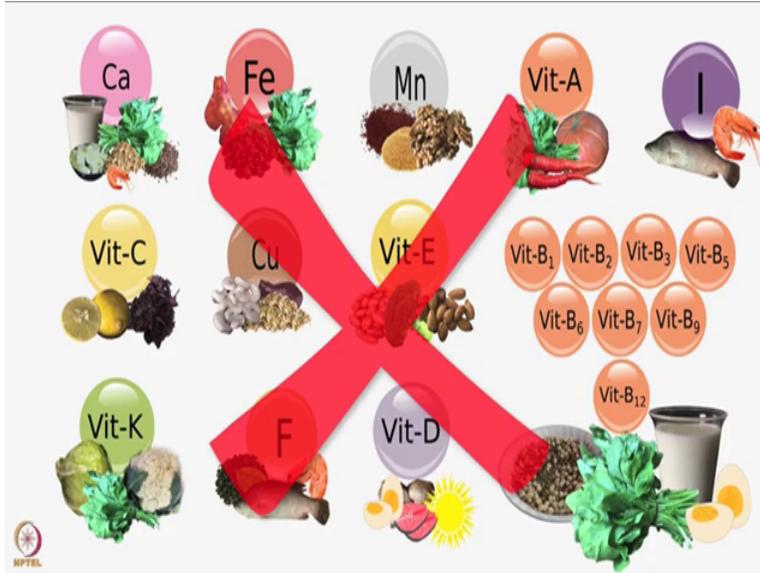




The nutrient content of the food is the third important factor. Junk food contains a high amount of sugar, salt, refined fat and refined flour. Most of the junk food is usually prepared by frying or baking. Many artificial colors, flavors and preservatives are added to these food. This is done to enhance the taste, appearance and shelf life of the food.

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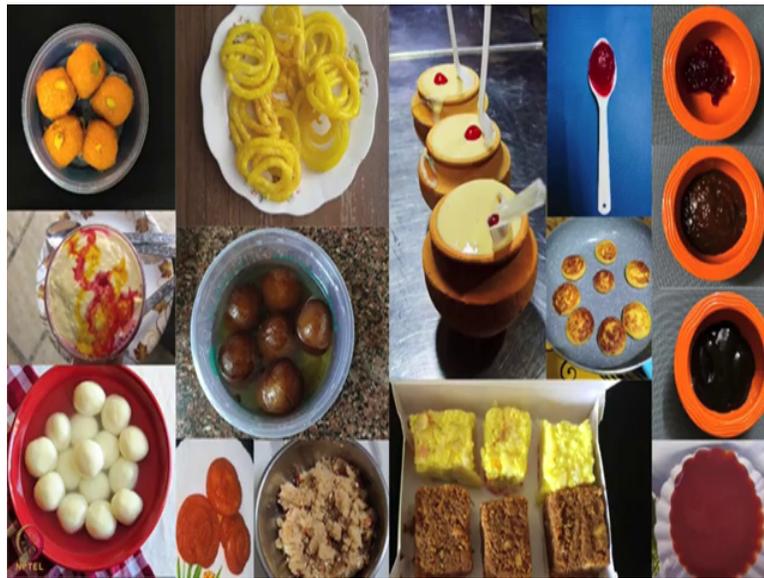


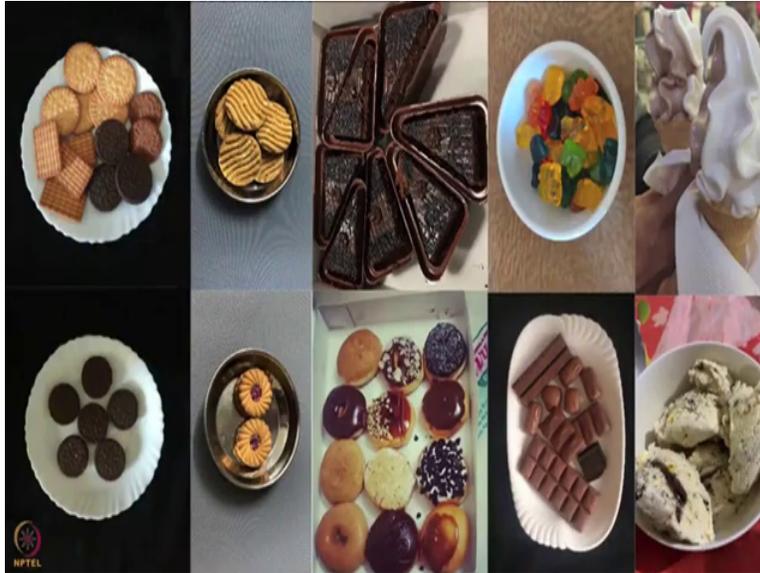


Junk food are high in calories. They have none or little amounts of protein, fiber vitamins and minerals. A few commonly consumed junk food are deep-fried salty snacks. Majority of the fast food are also junk food. For example, pizza, burgers, French fries, noodles, chips, wafers, puff, pastry, samosa, etc.

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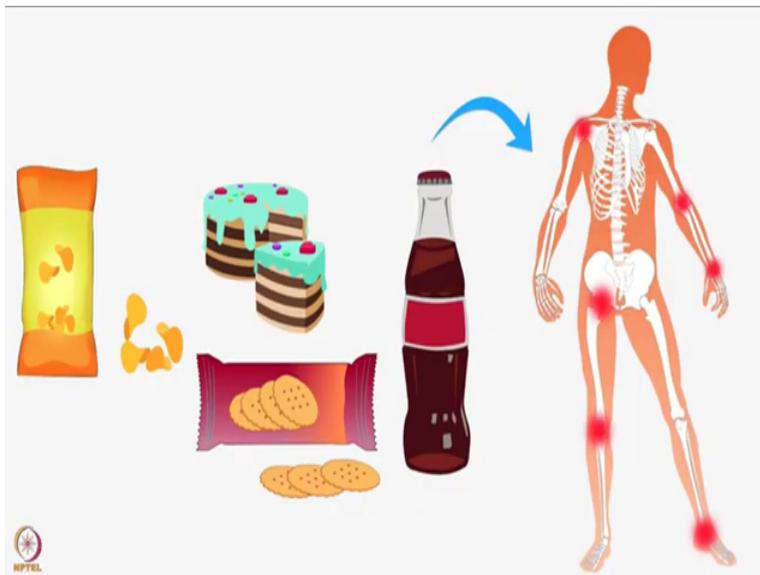


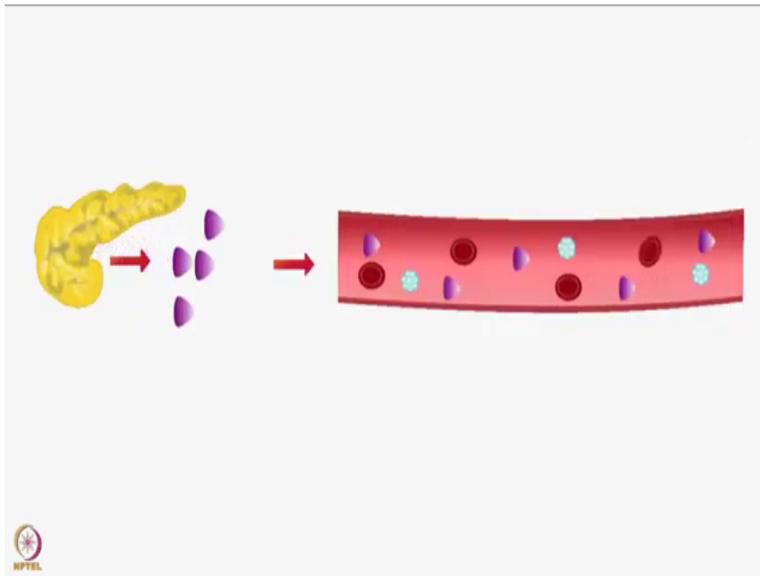
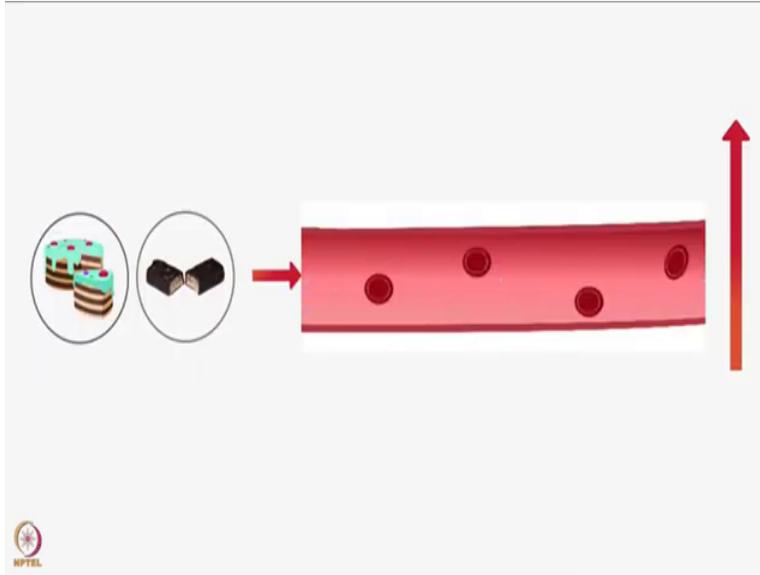


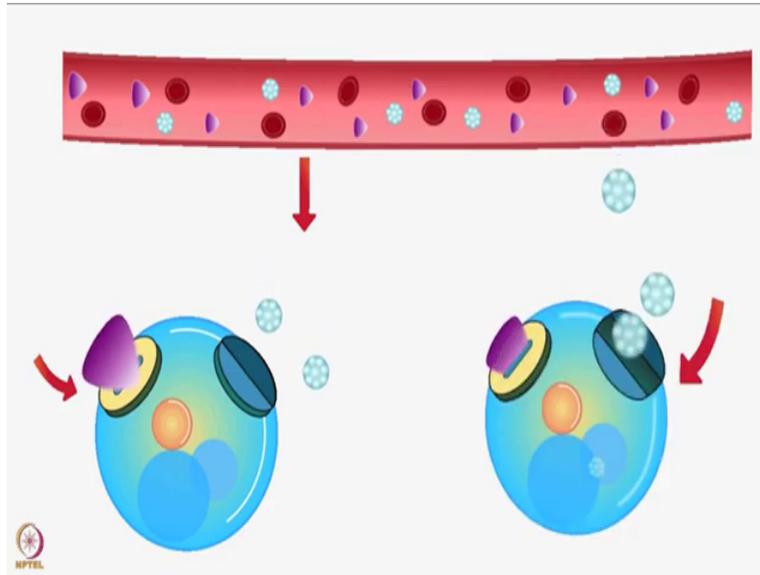


Some beverages are considered as junk food. For example, cold drinks, fruit juices and artificially flavored drinks. Even caffeinated drinks, soda and energy drinks are included. Sweets, deep fried sweets, jams, jellies, sauces, ketchups are also junk food. Biscuit, cake, chocolate, candy, ice cream are other examples.

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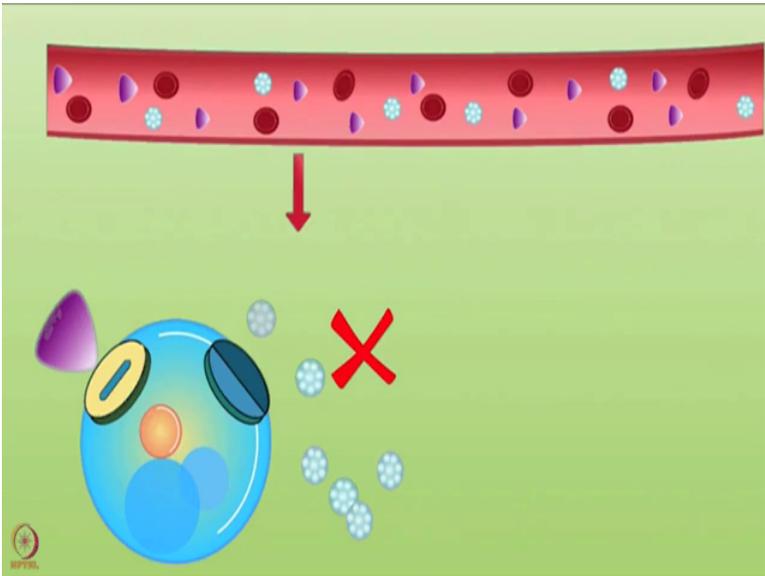
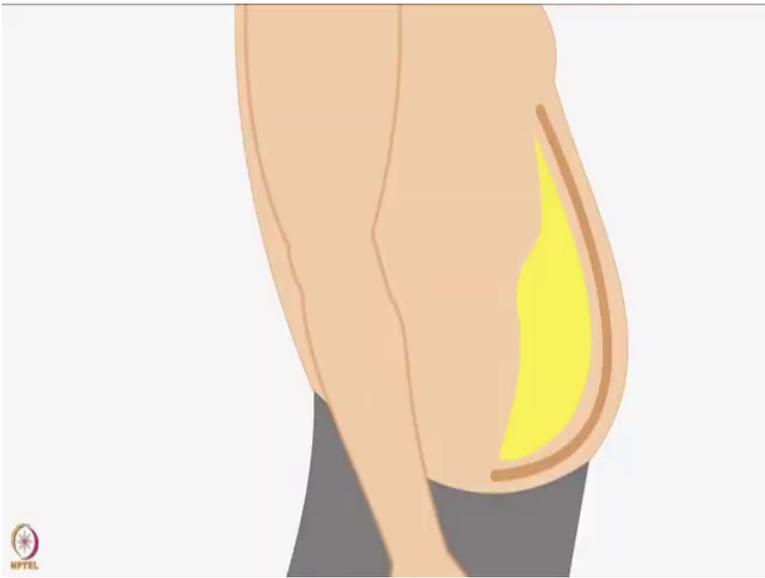


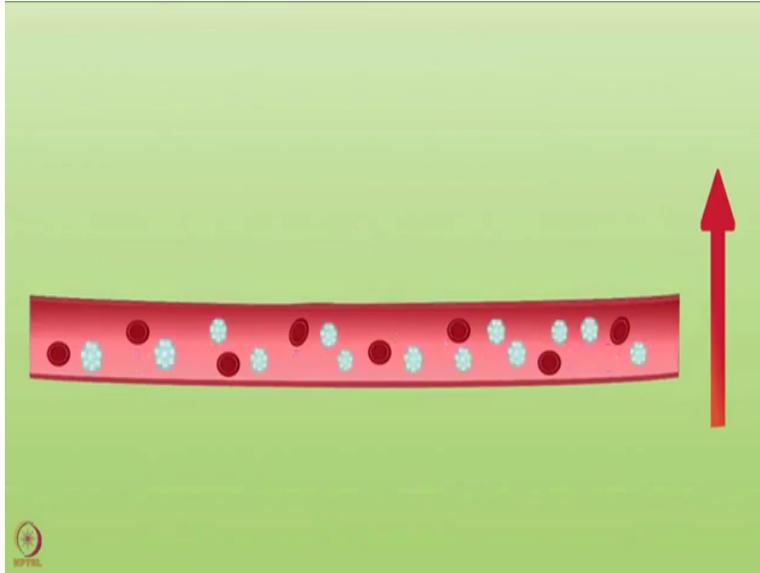




Let us now see the effect of junk food on our body. Junk food which is high in sugar causes immediate rise in blood sugar levels. As a result, the pancreas releases insulin in our blood. Insulin is a hormone which acts like a key to open the cells. The cells absorb sugar from the blood to provide us energy.

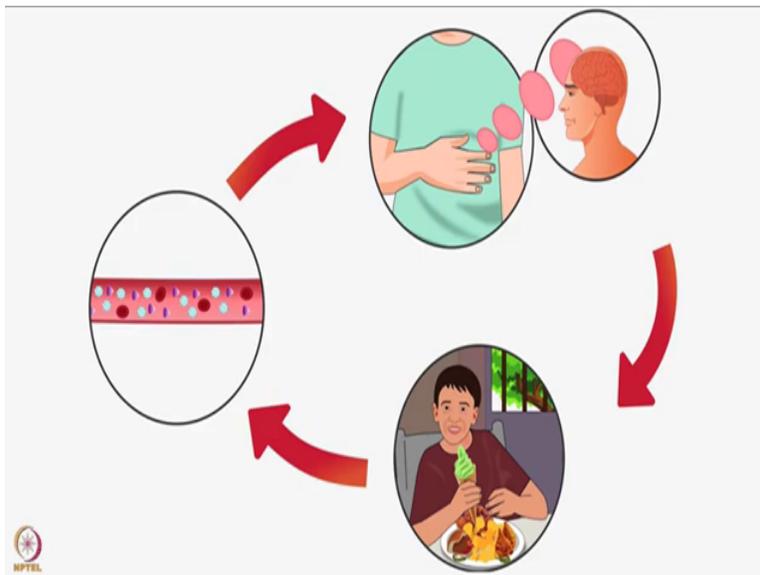
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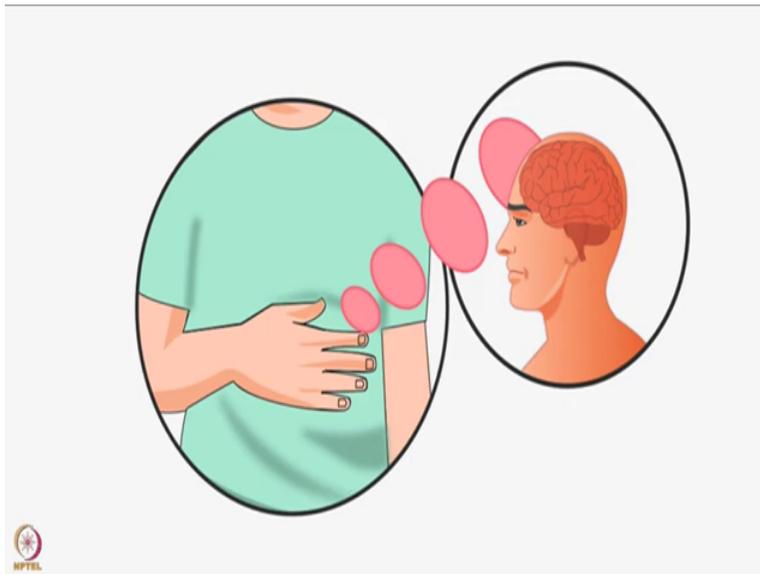


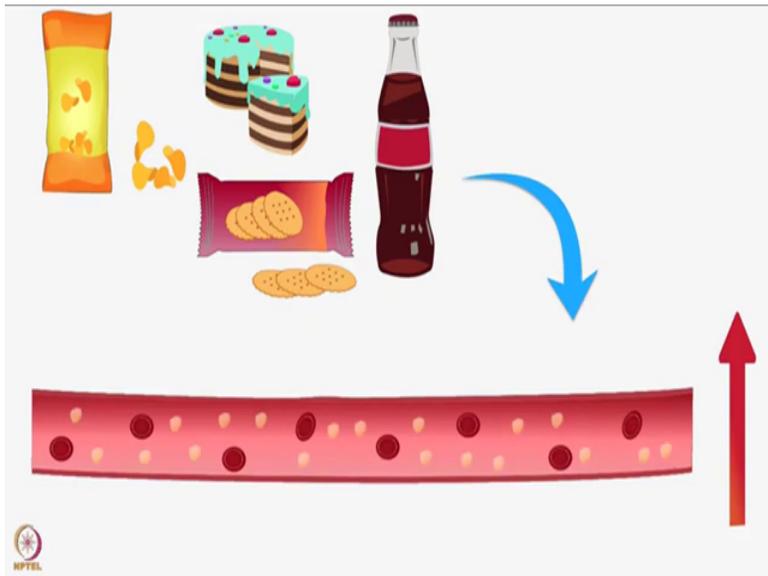
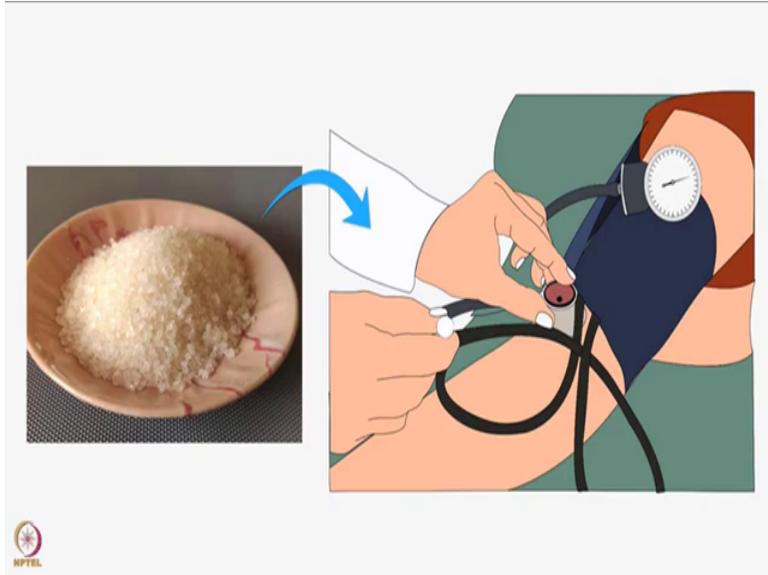


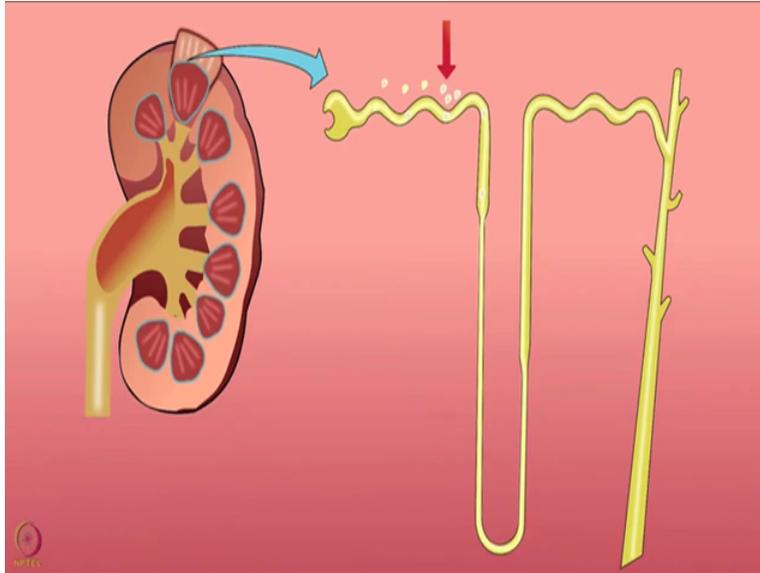
Excess sugar gets stored as fat in the body. Regular eating of high sugar food can cause insulin resistance. During insulin resistance, the body is unable to respond to insulin or use it. Therefore, sugar is not taken up by our cells from the blood. As a result, there is a rise in insulin levels and blood sugar levels.

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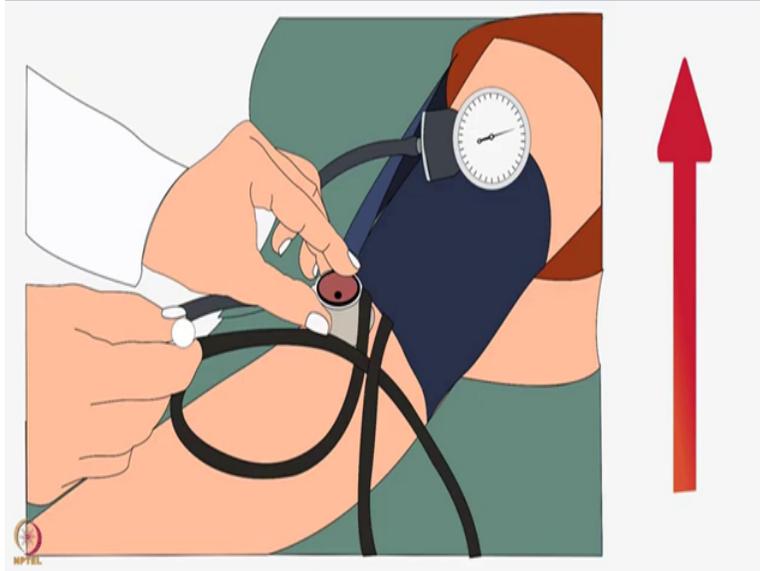




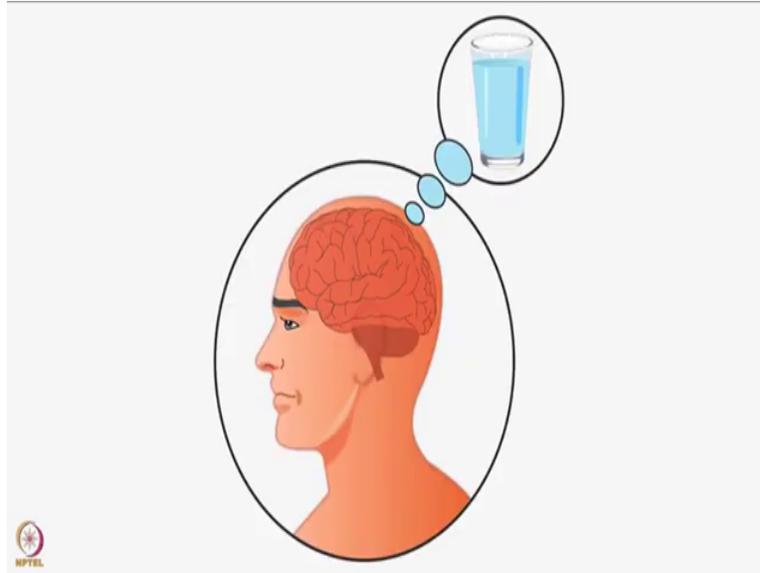
The high insulin levels send signals for hunger to the brain. The body starts craving more food even if it is not hungry. This creates a vicious cycle and causes overeating. Let us understand this with an example. While eating a biscuit or laddu we cannot restrict ourselves to one piece, we crave to eat it more and more, we mostly finish the entire packet of biscuits or many laddus at a time.

This is because of the hunger signals which are sent to the brain. Sugar also has an effect on blood pressure. On eating food high in sugar and salt our sodium level increases. Sugar enhances the sodium absorption in the body by the kidney. As a result, sodium gets retained in the body.

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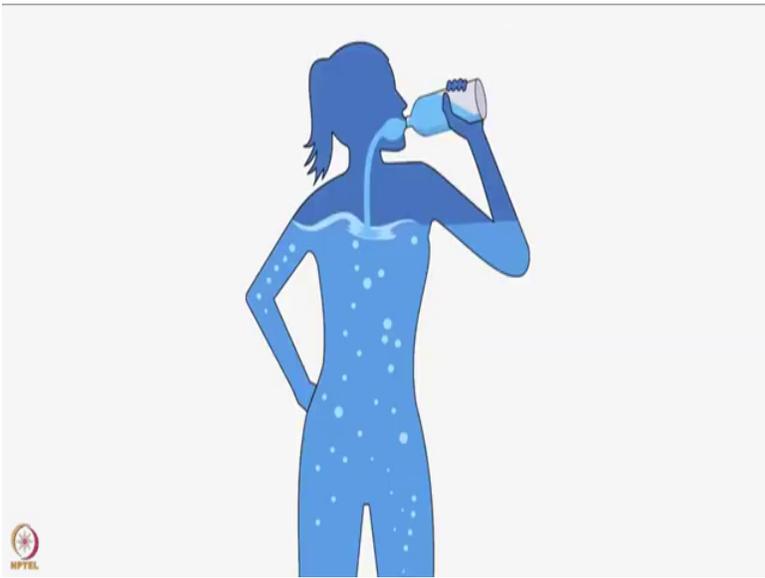






This causes an increase in blood pressure and water retention in the body. As a result, puffiness in hands and feet can be seen. Let me give you another example. After eating chips, we usually feel thirsty. This is because sodium levels in our blood increases on eating salty food. The brain then sends signals of thirst so that we drink more water.

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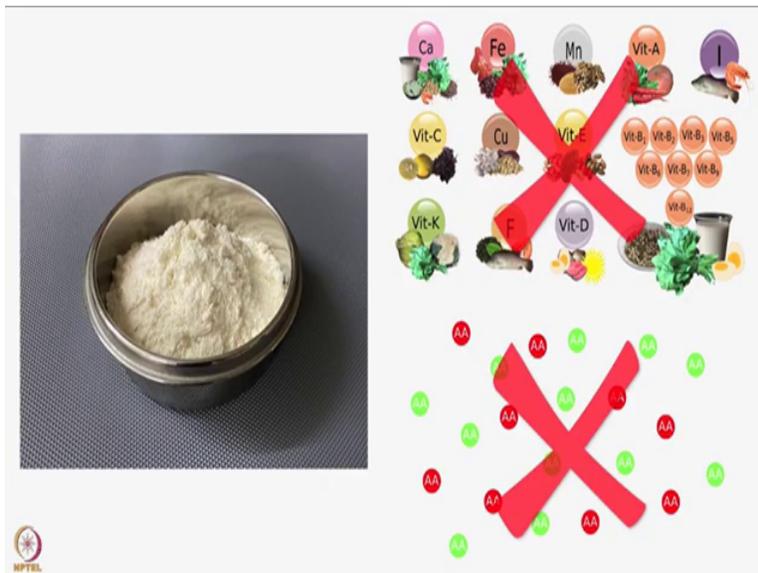




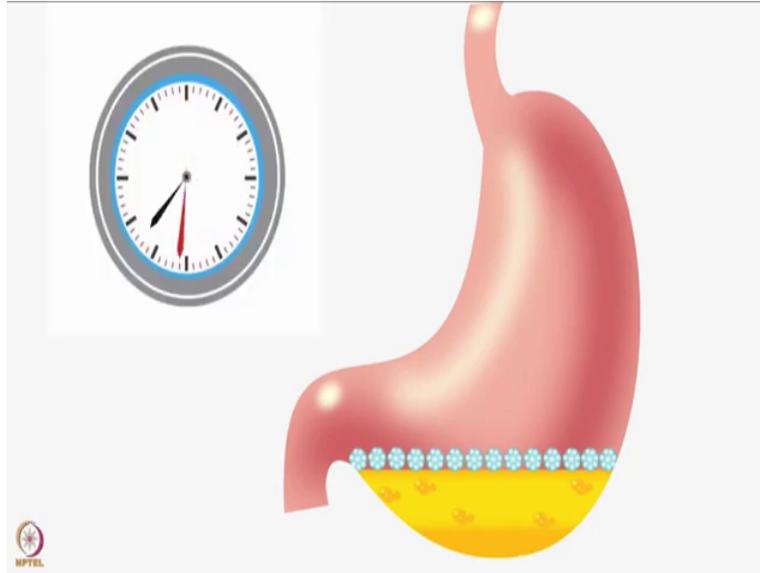


Drinking water will dilute the sodium levels in the body, but drinking juice or cold drinks will increase the sugar levels in the body, this will result in a rise in the blood pressure. Apart from sugar and salt most junk food have a lot of refined flour, refined wheat flour is most commonly used.

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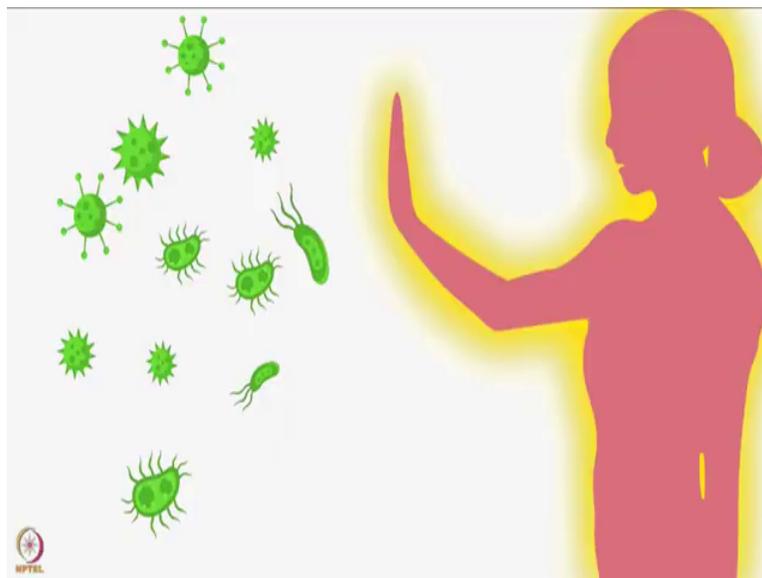
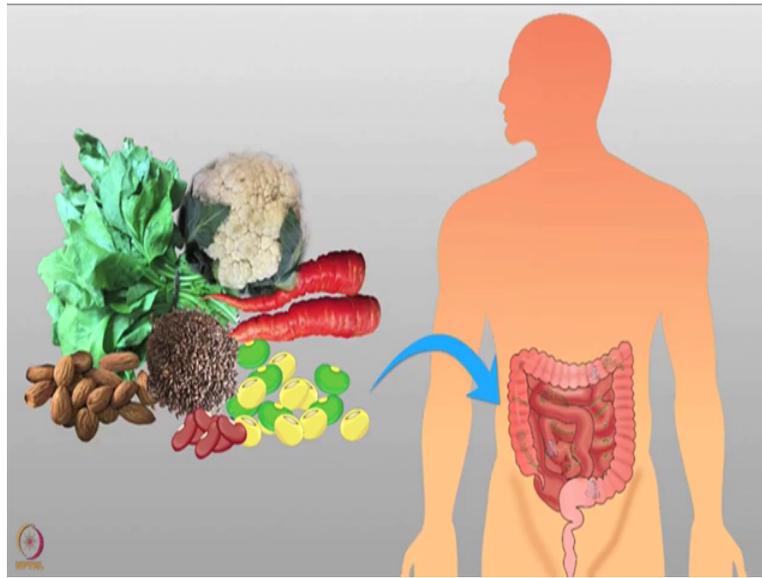


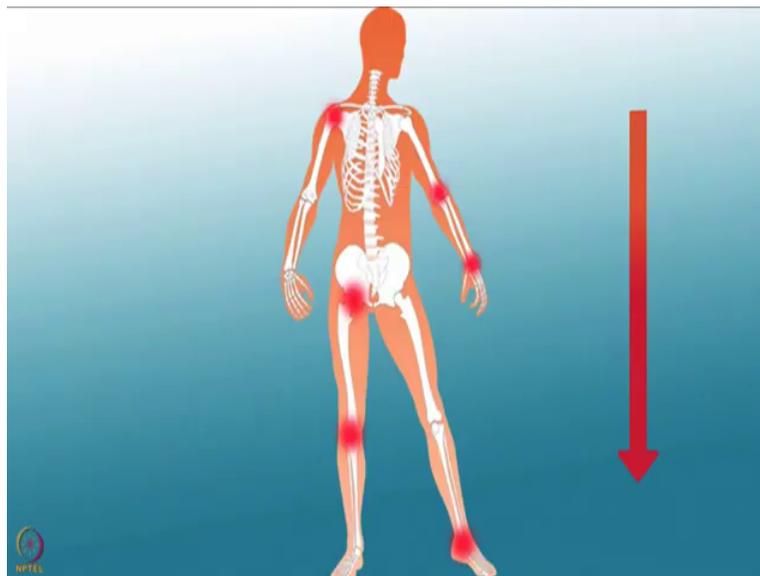




These refined flours are low in fiber and lack essential nutrients. Fiber has a very important role in the body, it gets digested slowly and gives us a feeling of fullness for a long time. Therefore, when we eat junk food low in fiber, it gets quickly digested. Our stomach gets empty very quickly and we feel hungry again.

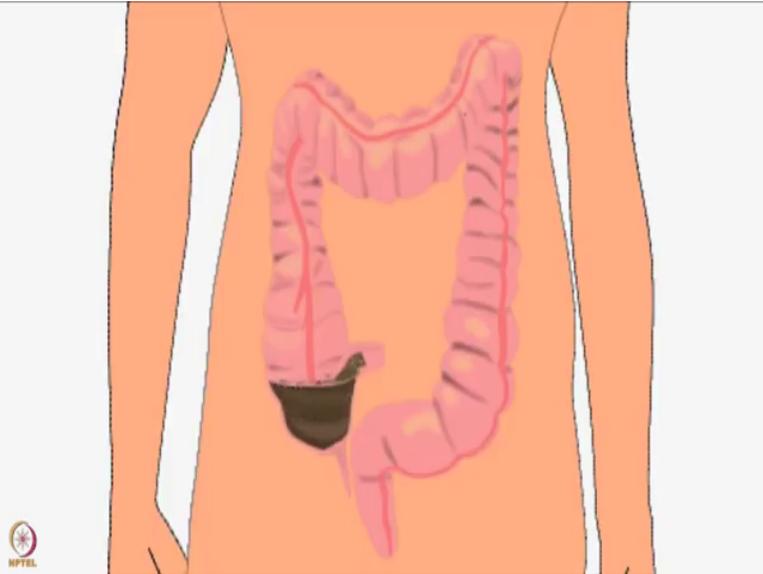
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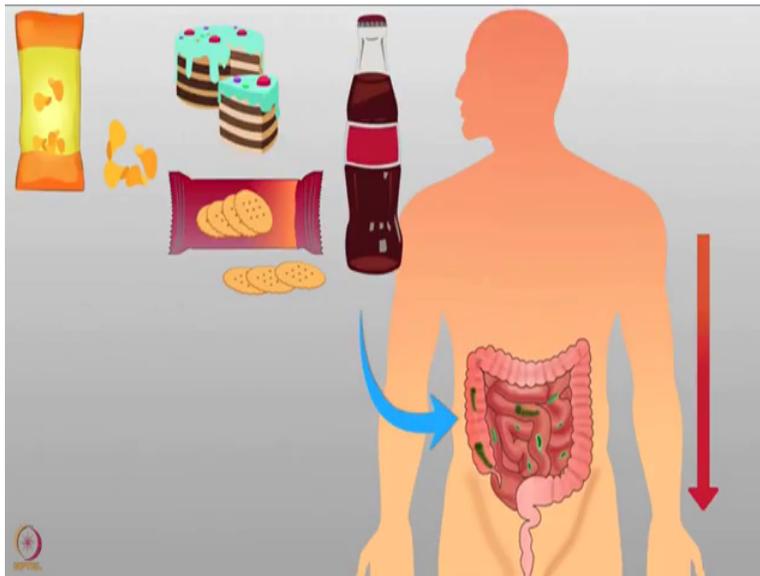
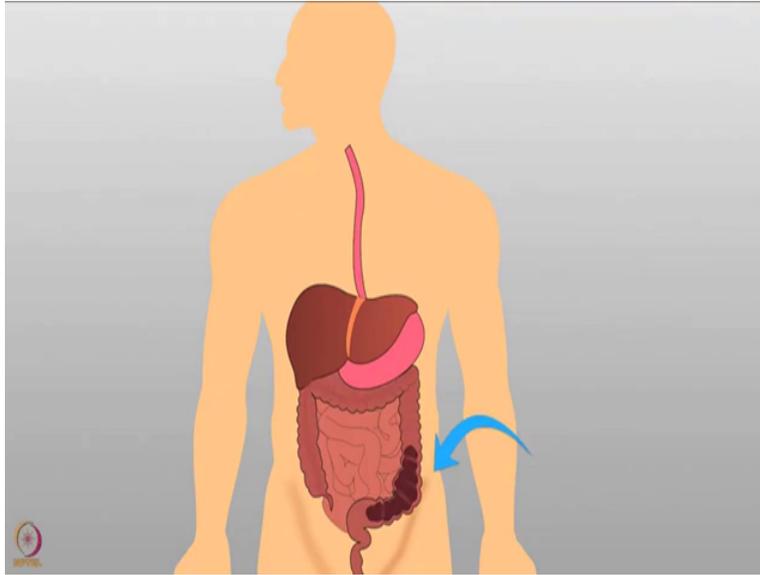


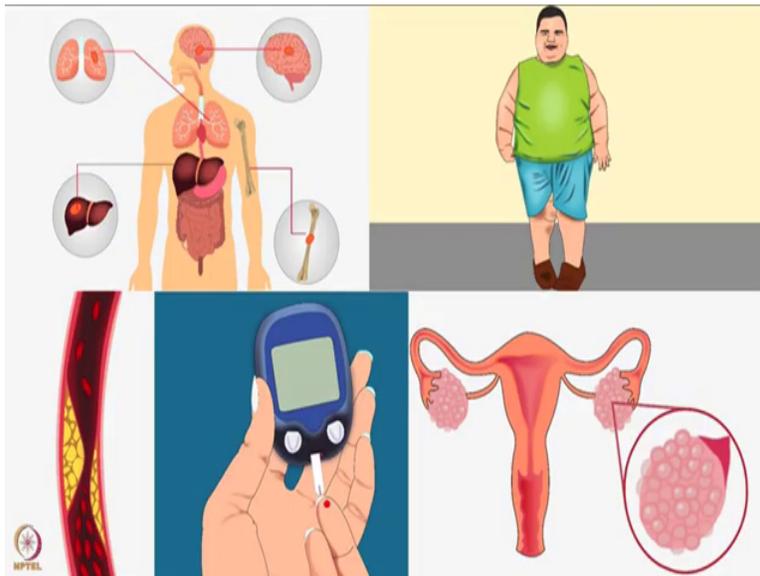
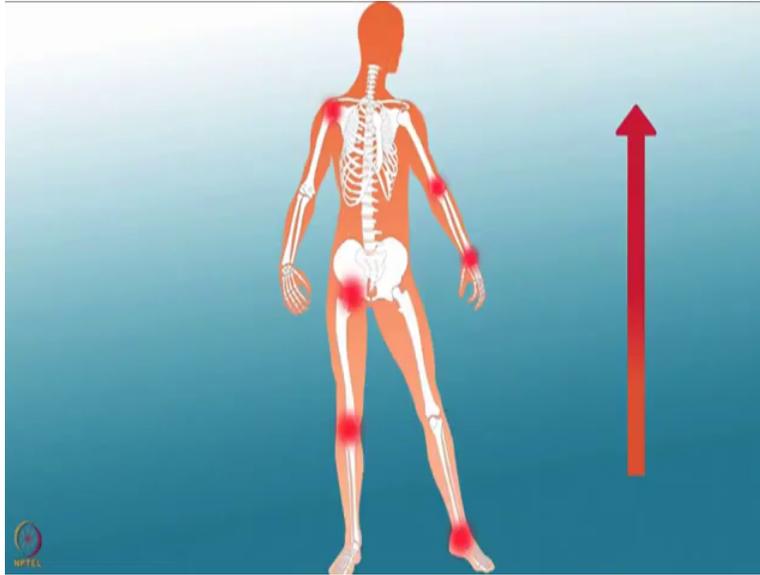


Another important benefit of fiber is to maintain a healthy gut, our gut comprises of both good and bad bacteria. Fiber promotes the growth of good bacteria, thereby helping in proper digestion and absorption of nutrients. Other benefits are strong immunity, healthy skin and reduced inflammation.

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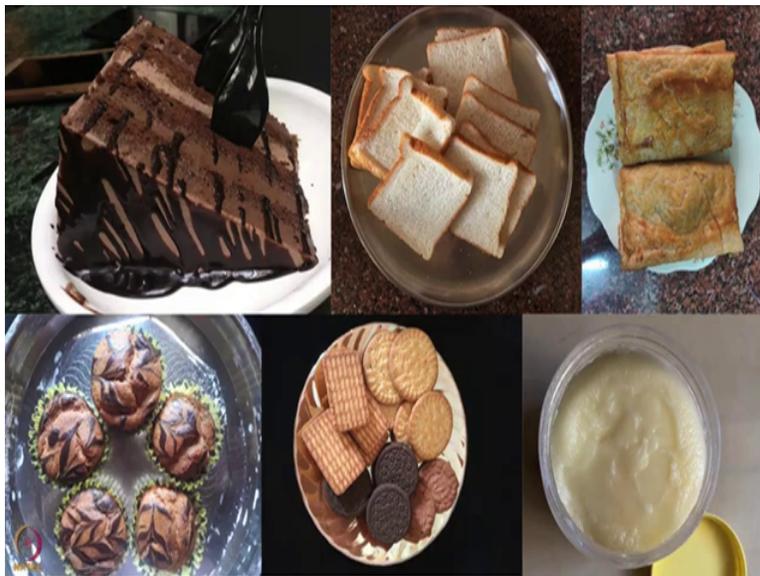
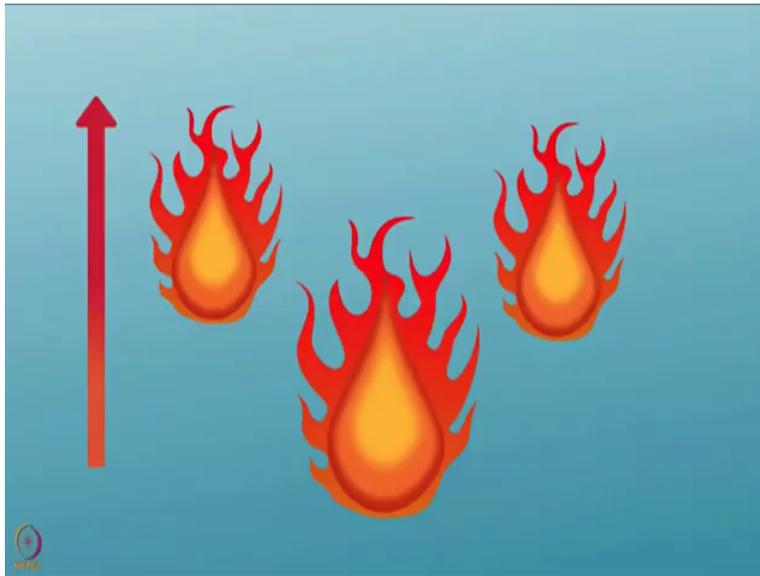


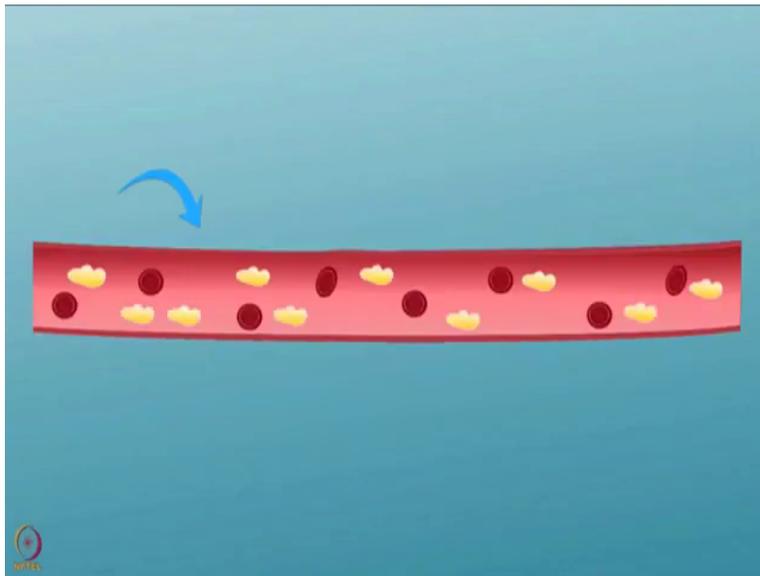


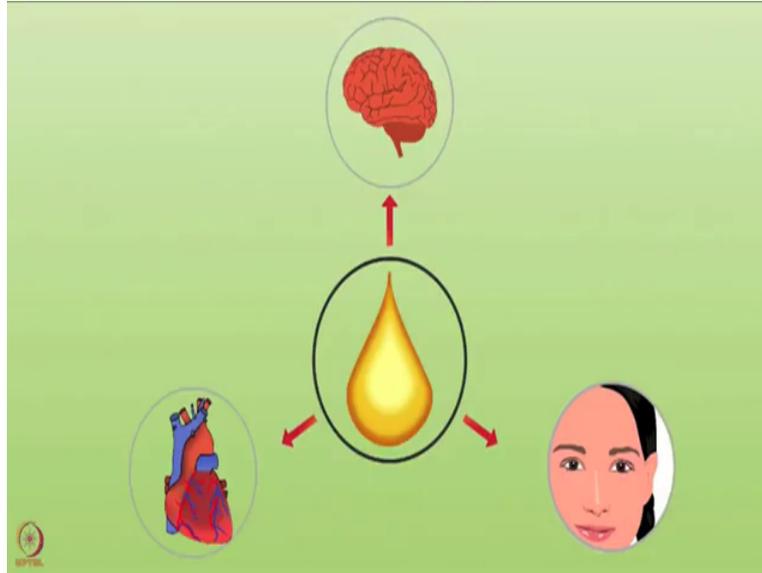


Fiber is also necessary for our stools to absorb water, this makes the stools soft and bulky. Thus, the stools move easily through the intestine. Since junk food is low in fiber, eating it regularly can cause constipation. The other disadvantage is that junk food reduces the good bacteria in the gut. This increases inflammation and the risk of various diseases.

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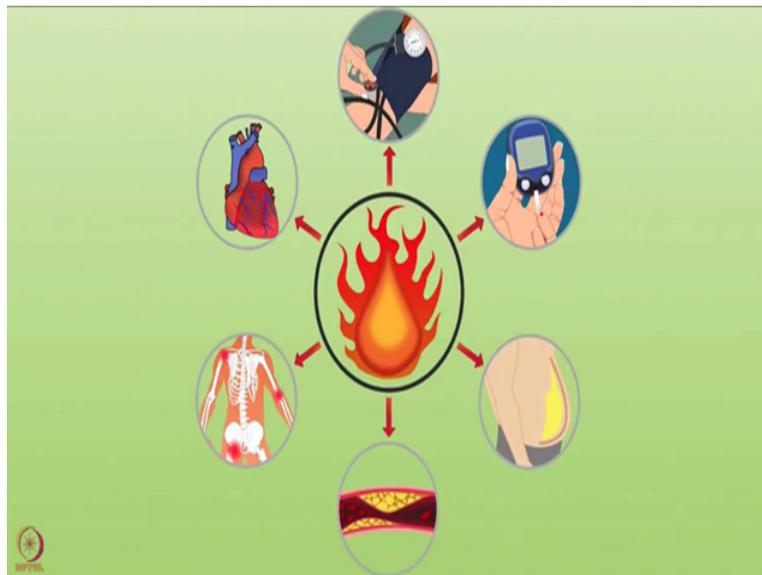






Some junk food are high in refined fats like trans-fat. Cakes, biscuits, baked products, margarines, Vanaspati, all have trans-fat. Trans-fat raises the level of bad cholesterol and lowers good cholesterol. Cholesterol is a type of fat found in our blood. Good cholesterol helps in proper working of the brain, skin and heart.

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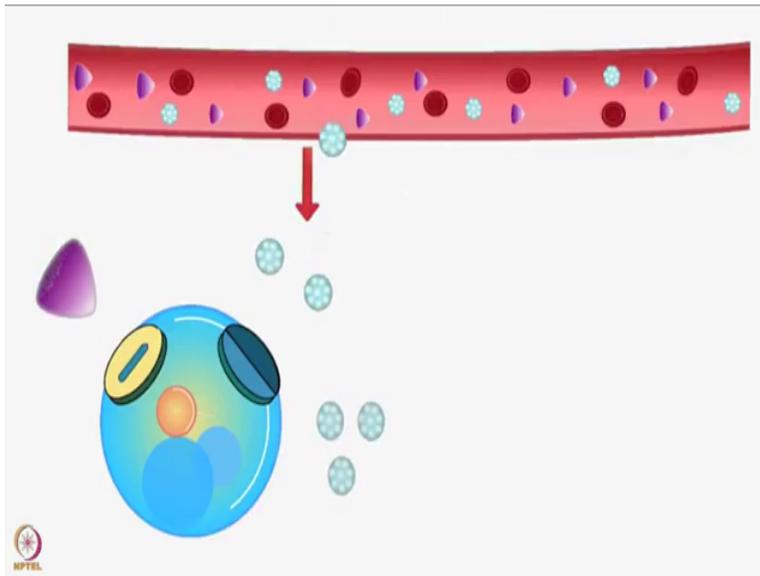
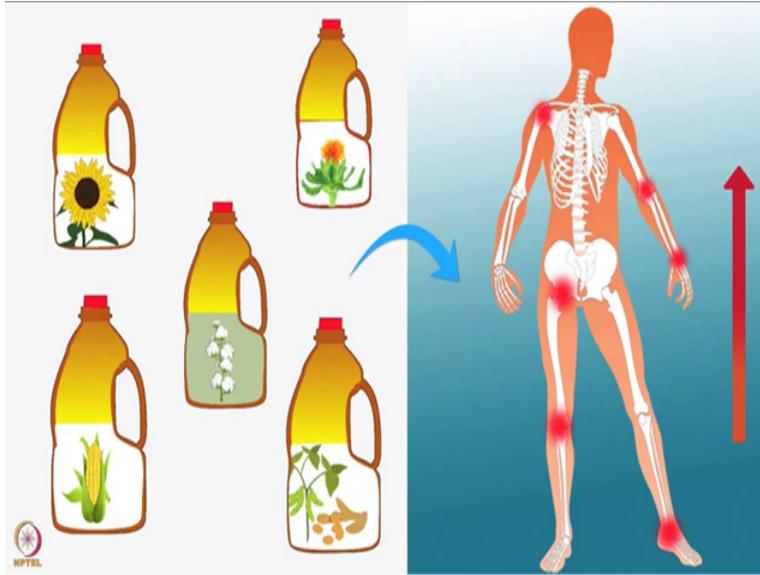


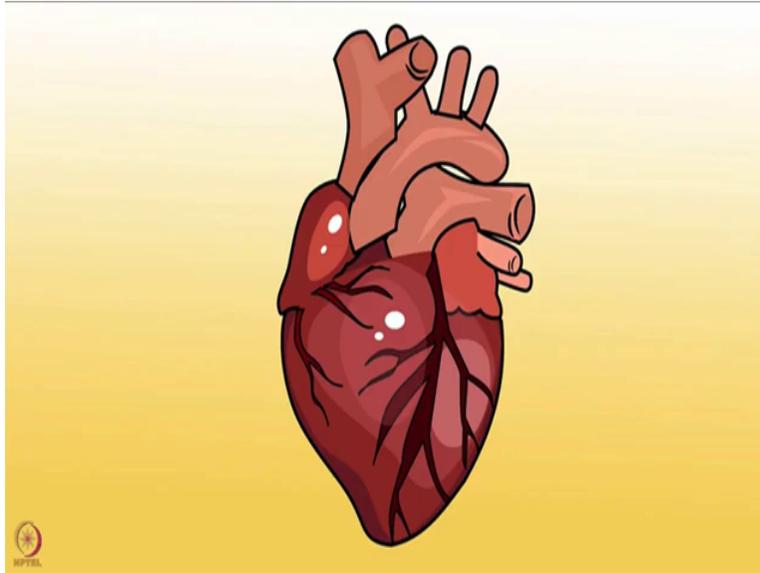


But excess of bad cholesterol is not good for our health. Mostly fried junk food is prepared using oils containing omega-6 fatty acid. Examples are sunflower oil, safflower oil, soybean oil, even corn oil and cotton seed oil are included.

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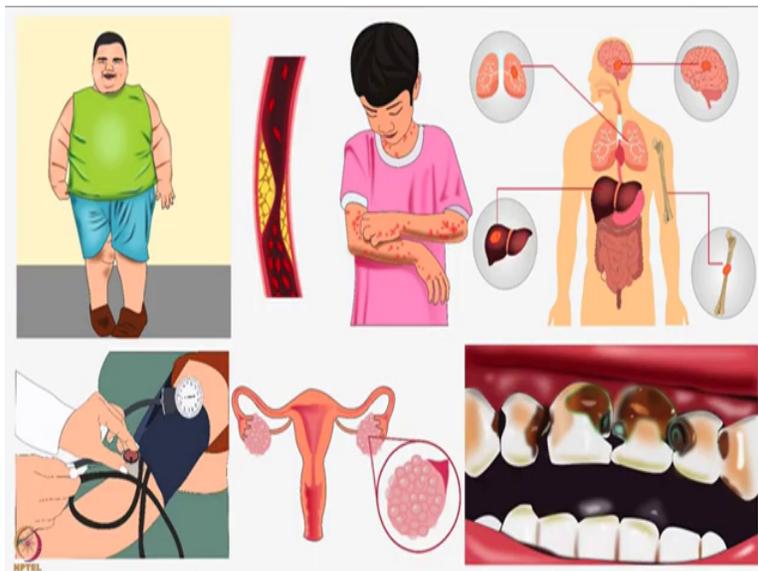


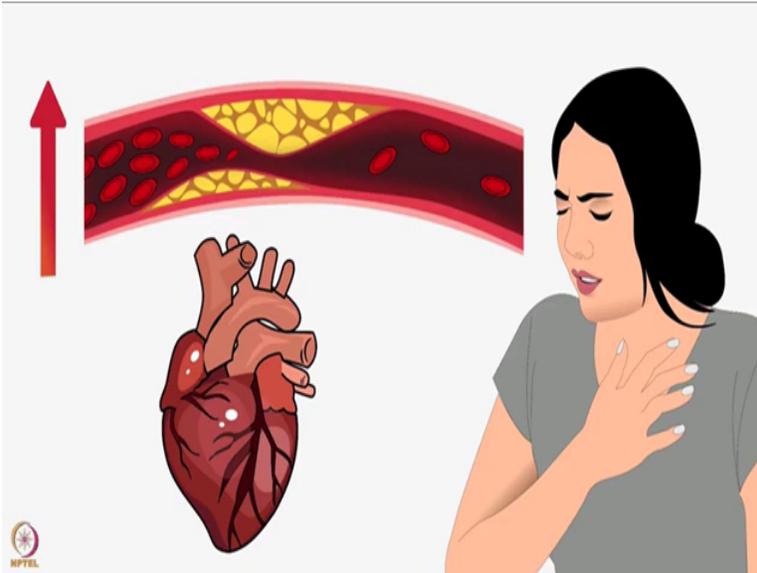
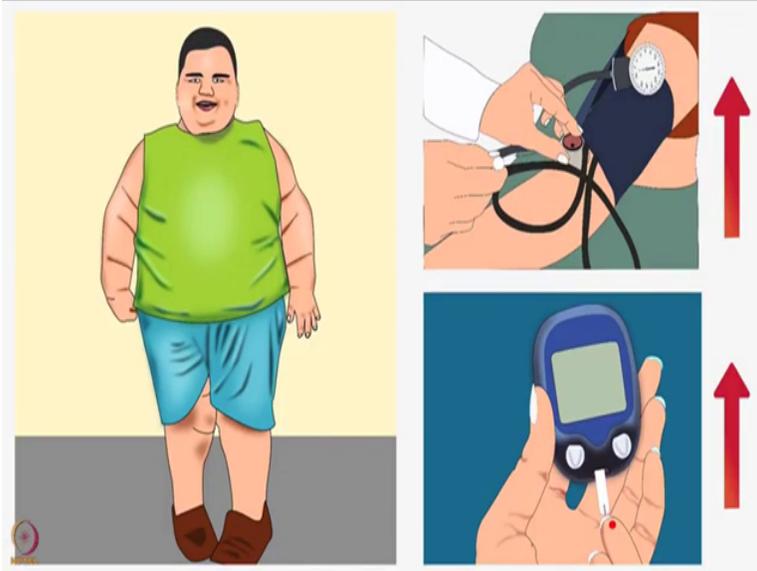


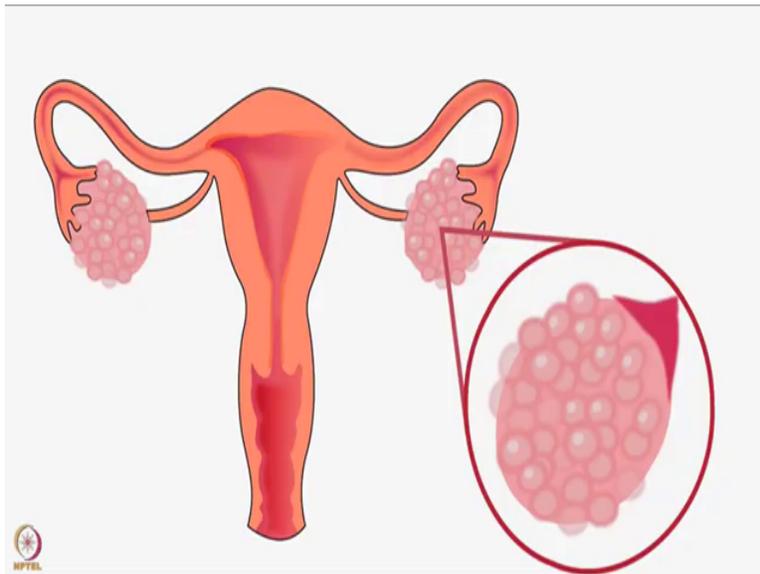


The omega-6 in these oils raises the level of bad cholesterol in our body. Excess of bad cholesterol gets deposited on the walls of our blood vessels. Excess of omega-6 fatty acid also enhances inflammation in the body. This results in the development of insulin resistance and heart diseases.

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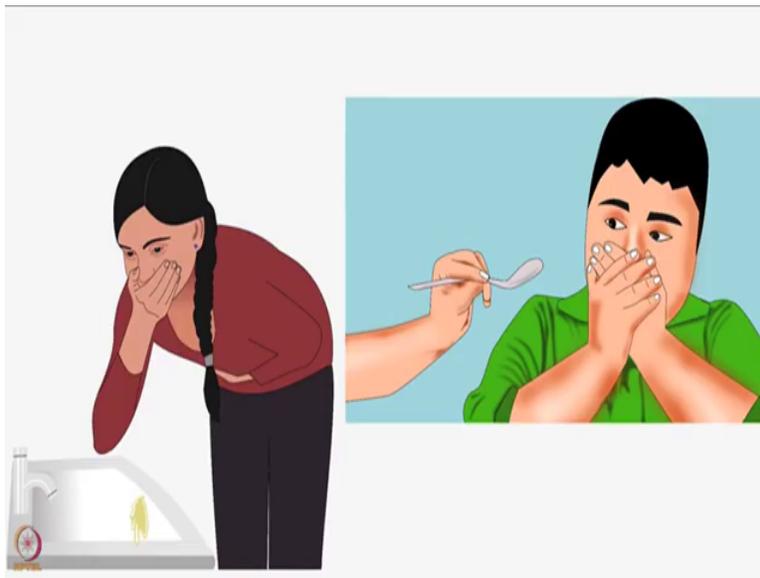


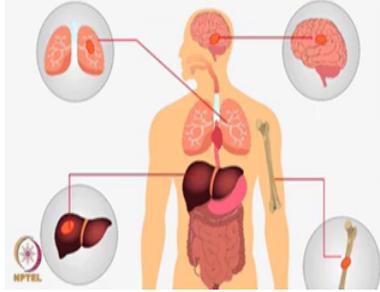


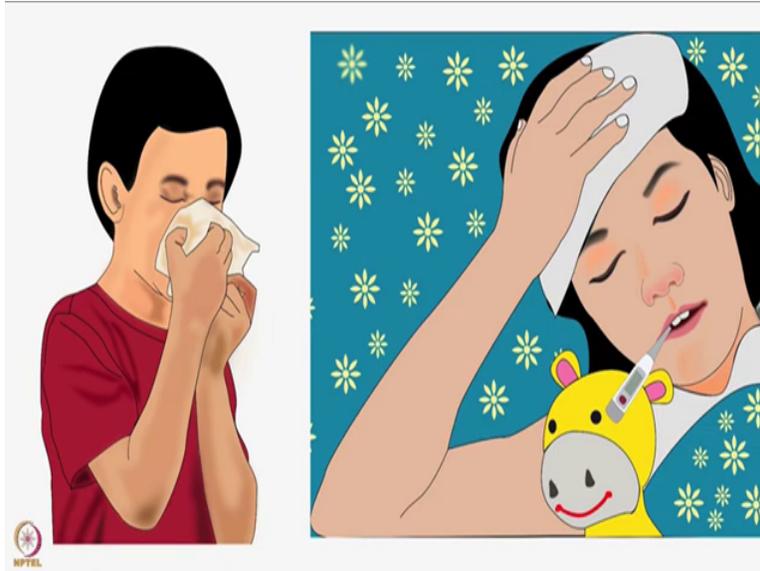


Excessive consumption of junk food has many harmful effects. Obesity, high blood pressure, diabetes are the most common. They can also cause a risk of increased bad cholesterol and heart diseases. Sleep disturbances or development of cysts in the ovaries can also happen.

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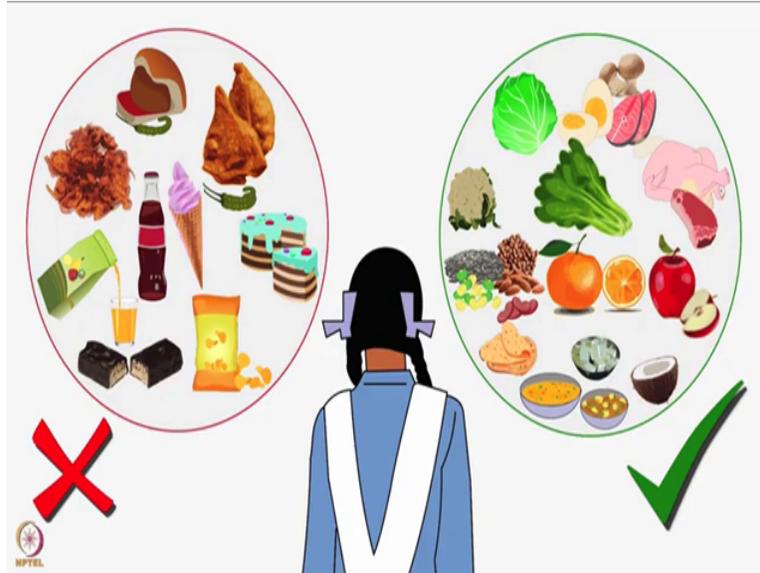




Eating too much junk food can upset the stomach. You may experience nausea, vomiting and reduced appetite. Other effects of junk food are dental caries, allergies and cancer. Junk food lacks the necessary nutrients to keep our body healthy. Therefore, eating too much junk food can weaken our immune system due to which we may often feel tired and weak.

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## Spoken Tutorial Project, IIT Bombay

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*In case of a doubt or further query, please consult a doctor or a nutritionist or a dietitian or a lactation consultant trained in Maternal, Infant and Young Child Nutrition.*



Usually, we are not aware about the ill effects of junk food on our health. Without giving a thought, we eat them regularly in large amounts. Therefore, we should be careful about choosing our food so that we stay healthy. This brings us to the end of the tutorial.

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**Reasons for increase in junk food consumption**



# Reasons for increase in junk food consumption

Spoken Tutorial Project

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Script and Narration: Misbah Samir  
Graphics and Animation: Bhairav Lahotkar



IIT Bombay  
20 March 2020



NPTEL

Misbah Samir

Reasons for increase in junk food consumption





Welcome to the spoken tutorial on reasons for increase in junk food consumption. In this tutorial, we will learn about factors increasing the consumption of junk food, ways to avoid junk food from our diet.

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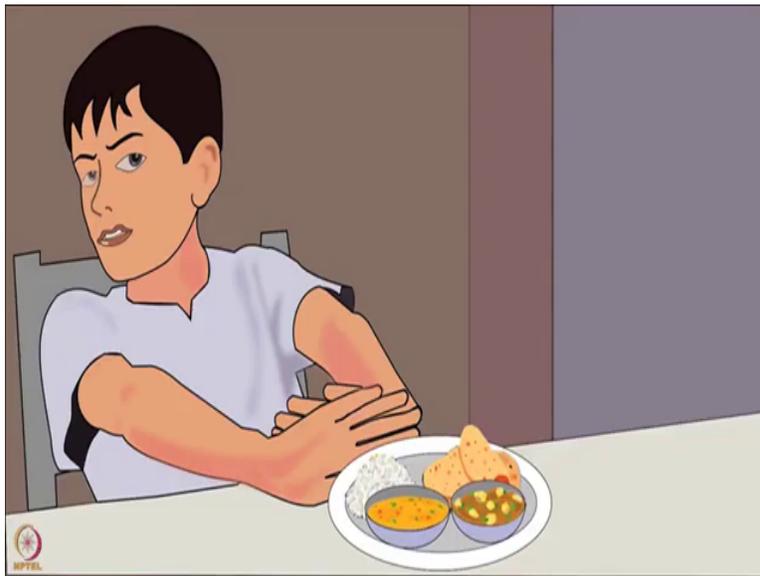


Junk food contains a high amount of sugar, salt, refined fat and refined flour. Harmful effects of junk food have been discussed in another tutorial. Please visit our website for more details. Let us understand the factors that increase the consumption of junk food. Junk food has become easily available these days, you can find it in shops school canteens, roadside vendors and restaurants.

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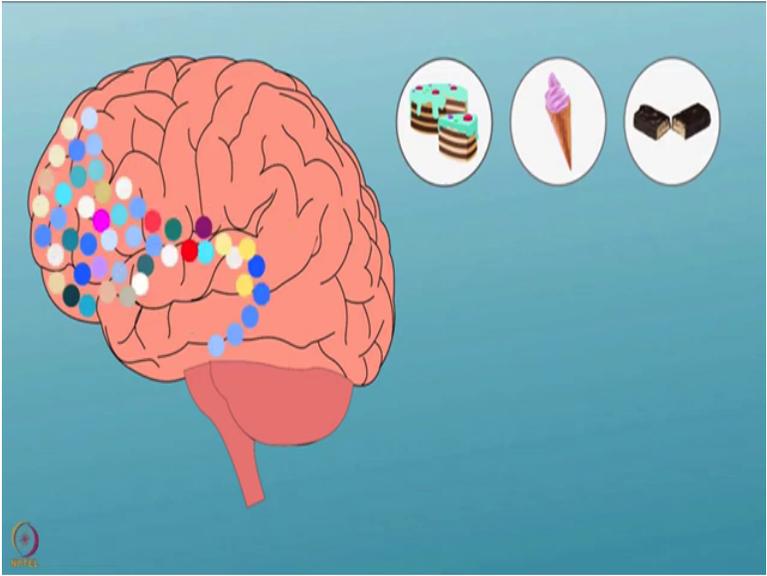
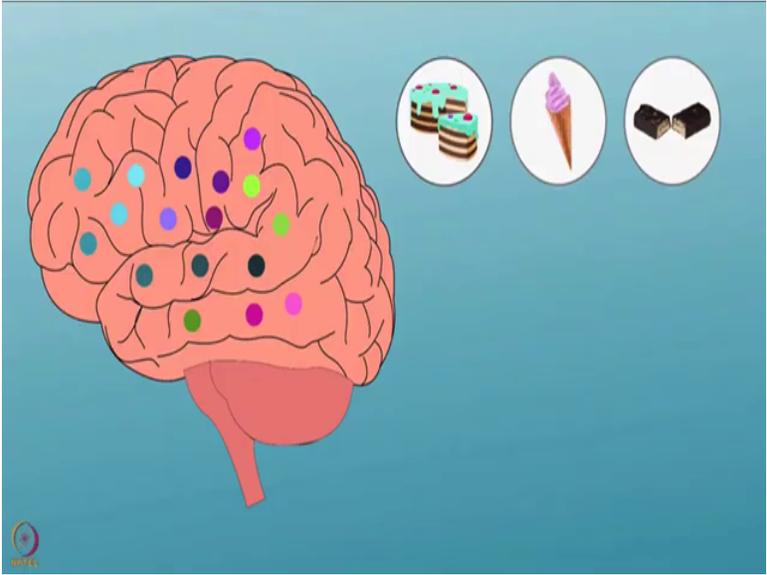


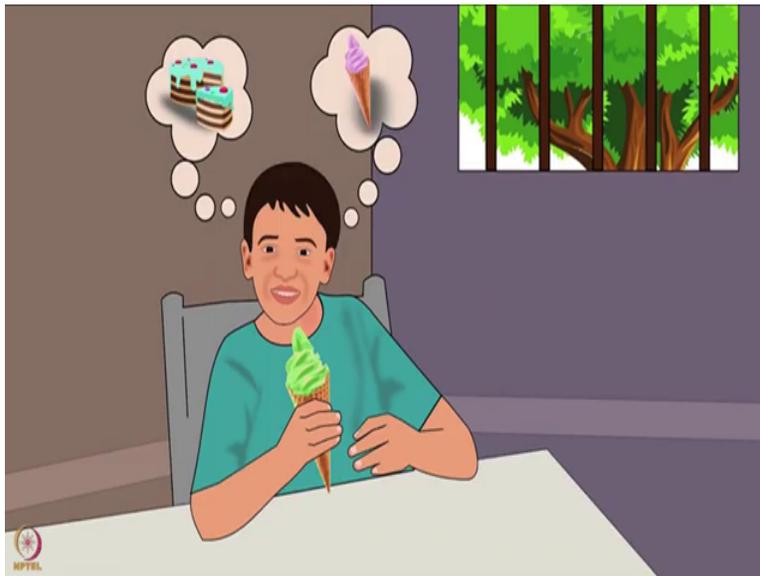




For example, a plate of chapatis, lentils and vegetables will cost slightly more. Therefore, people may choose something cheap such as samosa, chips, biscuits. Sometimes parents ignore the child's likes and dislikes. Children often get bored with traditional homemade meals. Due to a lack of variety in homemade meals, they may want to eat junk food. They may find these food tastier.

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On eating junk food high in sugar the brain releases chemicals like dopamine. It is released in large amounts which gives us a feeling of joy and comfort that is why we get addicted to junk food and crave to eat more and more. We seek comfort by overeating junk food, this is common during periods of stress, depression, loneliness and anxiety.

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Another reason that attracts us to junk food is its advertisements. These advertisements are often attractive and misleading. Children and adolescents get easily influenced by them. Friends also affect our food choices. For example, a student carries chapati and vegetables to school. If her friends bring junk food, then she will also want to bring those items.

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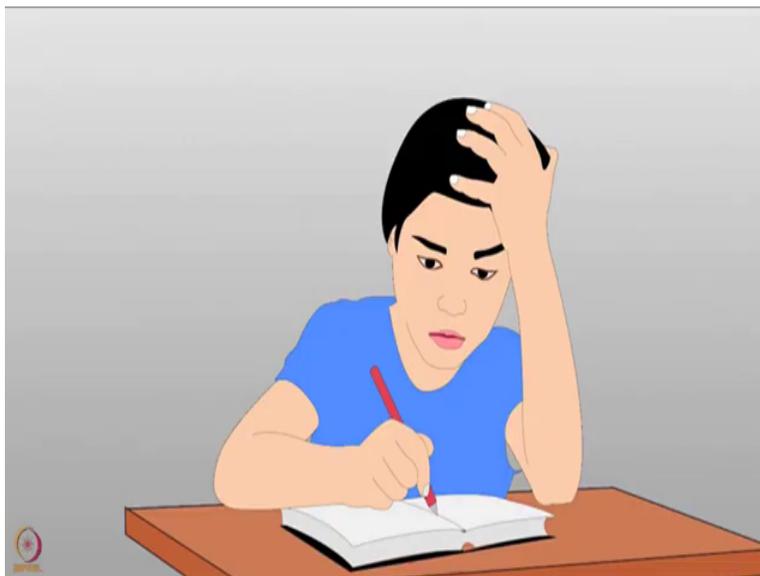






This shows that our eating habits get affected by what people around us eat. Moving ahead let us look at some ways to avoid junk food. Parents should understand that children learn and follow what they see. If they see parents eating healthy, they will also be motivated to eat right. Therefore, parents should be good role models for them. Please remember to never use junk food as a reward. Parents often give junk food as rewards to children in some situations.

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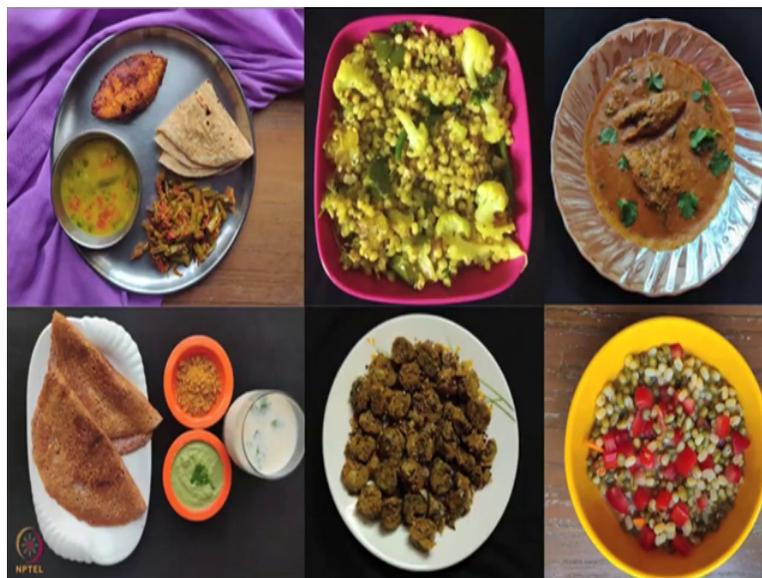


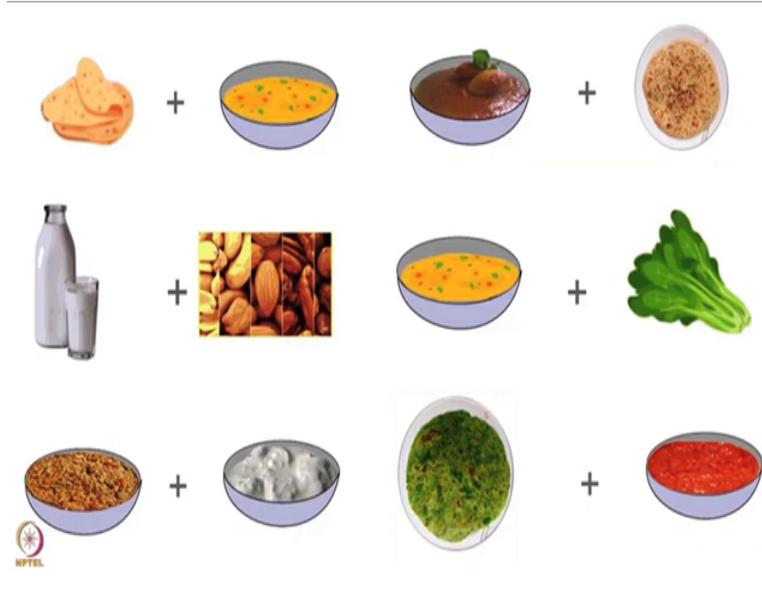




For example, to complete their school work or to score well in exams. This gives the children a message that it is okay to eat this food. As they grow older this can develop into a habit. Hence, never offer junk food as a reward to children, care should be taken to avoid eating food while watching TV or using phones. Eating while watching TV distracts our minds. Therefore, we do not feel satisfied and tend to overeat.

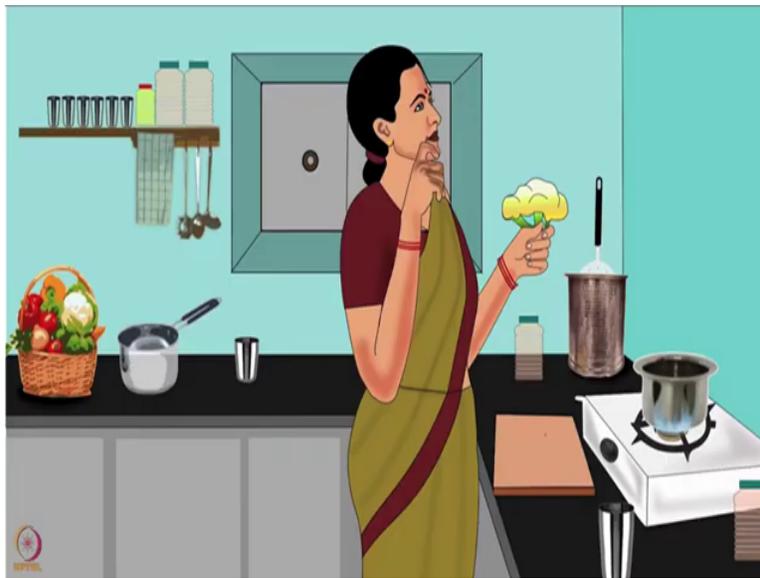
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Another thing which the mothers should consider is to bring variety in meals. The child's regular meal can be made exciting, make it more colorful and nutrient-dense. Use a combination of ingredients from different food groups. Let me give you an example. Plain rice can be modified by adding lentils, vegetables or eggs.

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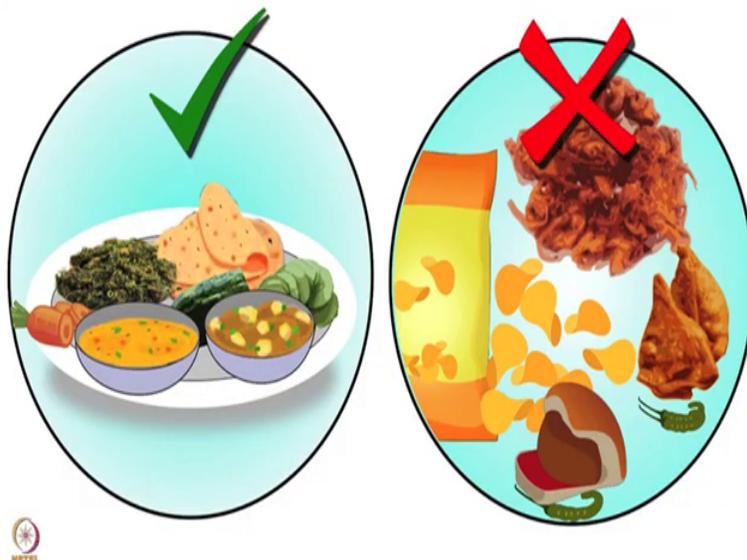






This way the child will look forward to having homemade meals. Before planning meals consider the child's likes and dislikes. If they do not like a specific ingredient, disguise it in other dishes. For example, some children are fussy about eating vegetables. You can disguise vegetables in the form of vegetable paratha, chila or cutlets. Vegetables can be chopped or pureed and served in the form of soup.

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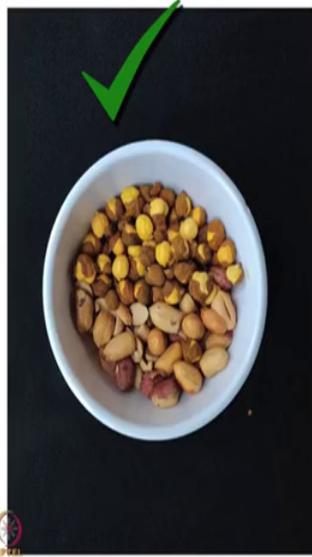


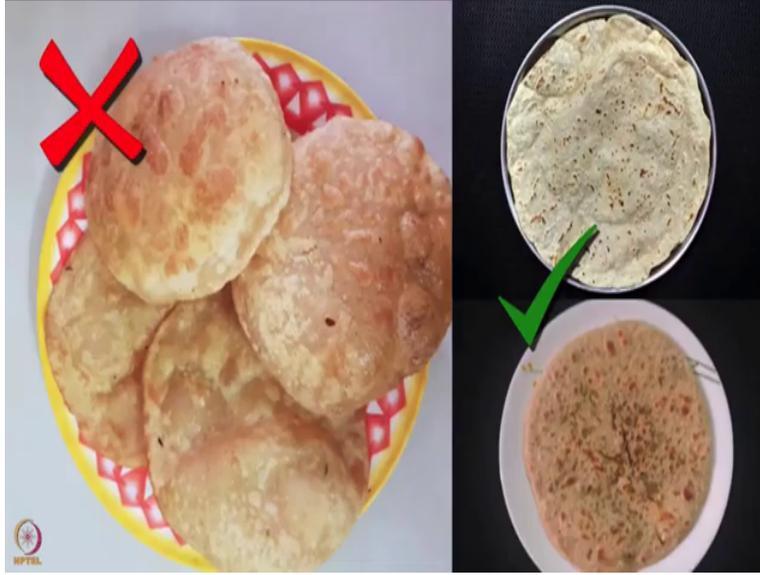


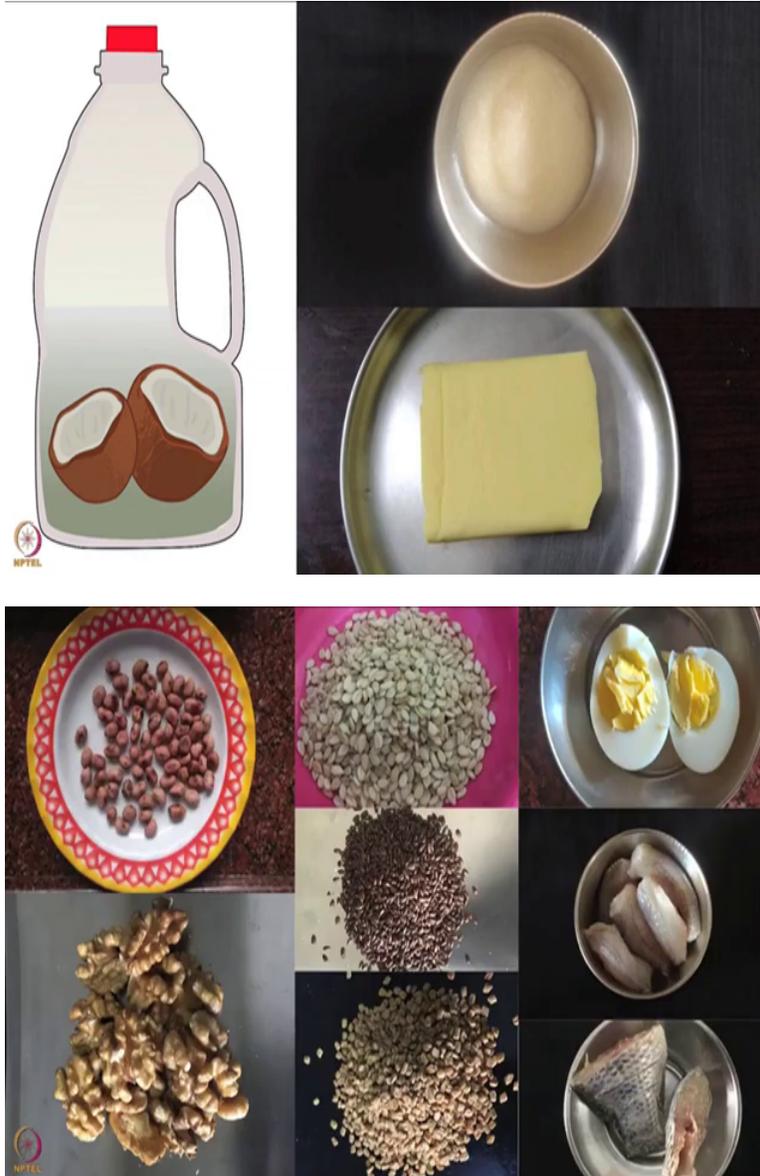


Try to replace junk food with healthy food. For example, vada, samosa or a pack of biscuits costs 5 to 10 rupees. For the same amount of money you can buy 2 eggs or a glass of milk. Do not add taste-enhancing powders available in the market in children's milk. Instead, you can add turmeric powder or nuts and seeds powder. You can also have chutney made of nuts and seeds instead of ketchup and sauces.

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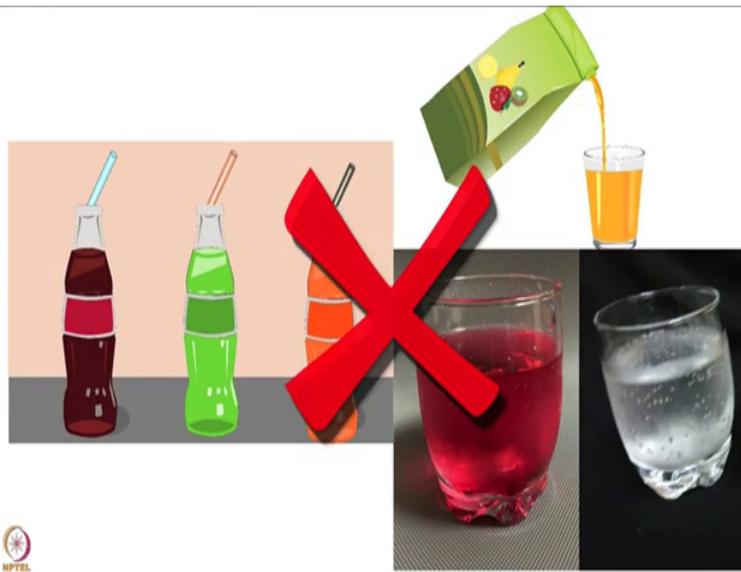


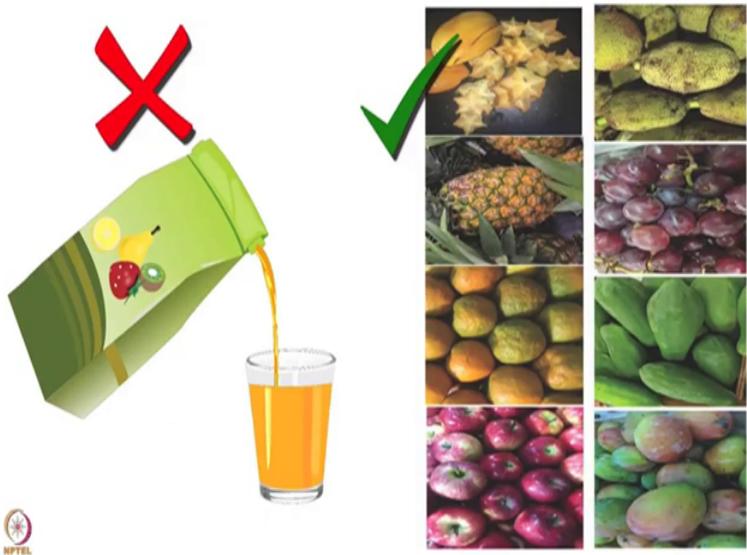




Roasted peanuts or bengal gram can be eaten instead of chips and fried chivda. You can also have boiled green gram, bengal gram, corn, etc. Avoid fried puris made of refined flour instead have chapatis or parathas made of whole grains, sorghum or pearl millet. Replace bad fats like refined vegetable oils with good fats. Examples of good fat are coconut oil, pure ghee and butter. Nuts, seeds, eggs and fish also have good fats in them.

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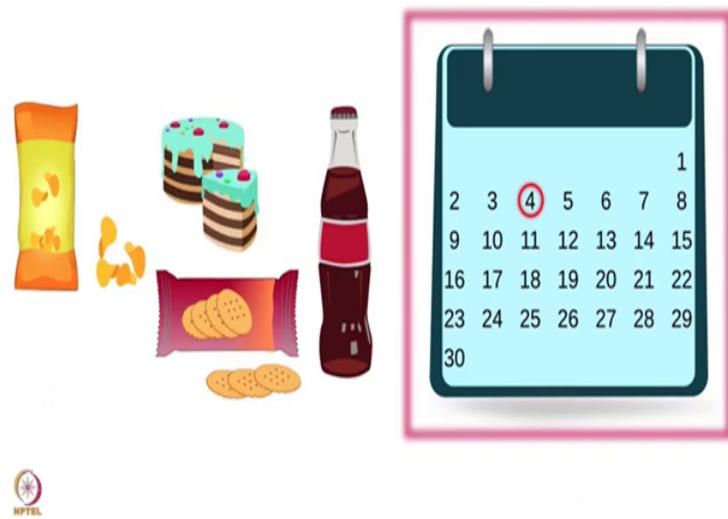




Avoid drinking cold drinks and juices. Instead you can drink water, lime water, coconut water, buttermilk or milk. Encourage children to eat whole seasonal fruits, instead of fruit juices. Fruit juices and sugary drinks should not be given to children below 2 years. In a day, the consumption of tea and coffee should be restricted. Half a cup or 100 ml can be given to 5 to 9 year old children. For adolescents 1 cup or 200 ml can be given.

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## Spoken Tutorial Project, IIT Bombay

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NPTCL

Misbah Samir

Reasons for increase in junk food consumption

## DISCLAIMER

*The information shared in this Spoken Tutorial is provided by domain experts and professionals. However, it is not a substitute for a qualified medical opinion.*

*In case of a doubt or further query, please consult a doctor or a nutritionist or a dietitian or a lactation consultant trained in Maternal, Infant and Young Child Nutrition.*



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Whereas tea and coffee should be avoided by children up to 5 years. Children and adolescents should completely avoid energy and carbonated drinks. The intake of junk food should be restricted to one serving per week. A homemade meal with the right ingredients is healthier than outside junk food. Always remember that it takes time to develop habits. Therefore, children must be taught to choose healthy food from a young age. This brings us to the end of the tutorial, thank you for joining.