We've all been told to avoid processed and refined foods. But what does 'refined' mean and those foods so harmful?

BY NANDITA SHAH | 6 Dec 2017

There are many ways in which we refine foods. In all the cases, the fibre is removed to make the food softer, smoother and tastier, sort of like baby food. Much of the plant is located on the skin outside and a very large proportion of the nutrients are located just below it.

Most of the nutrition is lost
Take the example of this chart from *Food Revolution* by John Robbins, which shows the percentage of nutrients lost when whole-wheat flour is refined into white flour. During this process that removes the outer skin, we lose 25 per cent of protein per cent of fibre, but also more than 50 per cent of most other nutrients.

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>% lost</th>
<th>Nutrient</th>
<th>% lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibre</td>
<td>95%</td>
<td>Vitamin E</td>
<td>95%</td>
</tr>
<tr>
<td>Iron</td>
<td>84%</td>
<td>Vitamin B6</td>
<td>87%</td>
</tr>
<tr>
<td>Manganese</td>
<td>82%</td>
<td>Riboflavin (Vit B2)</td>
<td>81%</td>
</tr>
<tr>
<td>Zinc</td>
<td>76%</td>
<td>Niacin (Vit B3)</td>
<td>80%</td>
</tr>
<tr>
<td>Potassium</td>
<td>74%</td>
<td>Thiamin (Vit B1)</td>
<td>73%</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>69%</td>
<td>Folate</td>
<td>59%</td>
</tr>
<tr>
<td>Copper</td>
<td>62%</td>
<td>Pantothenic Acid (Vit B5)</td>
<td>56%</td>
</tr>
<tr>
<td>Calcium</td>
<td>56%</td>
<td>Protein</td>
<td>25%</td>
</tr>
<tr>
<td>Selenium</td>
<td>52%</td>
<td></td>
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</tr>
</tbody>
</table>

Remember that nutrients help in healing, while fibre cleanses. Eating whole foods helps keeps the nutrition in our body intact. The fibre helps us feel satiated longer and cleans the digestive tract. When we refine our food, we strip it of nutrients and fibre. As a result, we are forced to consume more.

**No fibre and hence less filling**

Have you noticed that when you eat whole foods you feel full faster? For example, two slices of real whole-wheat bread may fill you as much as four slices of white bread though each of the slices contain the same amount of calories. So you end up consuming more calories when you eat white bread because you need to eat twice the amount to feel full. The same is true of rice. A bowl of whole rice is about as filling as two bowls of white rice. But one bowl of whole rice contains almost the same amount of calories as a bowl of white rice.
For manufacturers, this spells profits, because you are consuming twice the amount of food when it is refined or processed. For you, it translates into calories and weight gain without the benefit of good health. It's also important to note that when you eat whole foods, say whole rice instead of white rice, you stay full longer. This translates into reducing your urge to snack, making your daily calorie intake even lower.

Fibre provides bulk without calories. In our bodies, fibre also has a specific function. It creates bulk in the intestines, preventing constipation and maintaining smooth movements of the bowels. Constipation is very common today because of the high consumption of refined and animal-based foods, but it's almost impossible to be constipated on a whole-food, plant-based diet.

Sometimes we refine food in ways that may not be as damaging but these are not as healthy as the whole food from which they are derived. For example, fruit juice has a distinct flavour, which means many nutrients are still available, and it's tasty. But the problem is that we may be able to drink large amounts of it, because the fibre is removed and it is now easier to consume. Thus we get more calories than we would if we stuck to eating the whole fruit. This may be useful in a situation where it's difficult to eat or when we need a large amount of nutrients quickly, as in the case of cancer, but is especially detrimental for diabetics because of its high caloric values.

**Refined foods become tasteless**

Nutrition and palatability go hand-in-hand. Nutrients have flavours of their own. Whole rice, whole wheat, beetroot, sugar cane and fruit and oilseeds like peanut, sesame and coconut have their own distinct flavours. The refined products that come from them are stripped of these flavours. This is also one of the reasons they are so popular. White rice provides a good base, because it hardly has a taste of its own, so it doesn't alter the taste of the gravy that it is served with. Compare this with the wholesome taste of brown rice. Similarly, white bread serves as a packaging for the filling of the sandwich. Unlike whole bread, it hardly has a flavour. Sugar add
anything only increases the sweetness and does not change the taste. But date raisins or beetroot have their own flavours. Foods fried in refined oil bear no resemblance to the oilseeds from which the oil was derived. You cannot tell which oil a food has been fried in just by tasting it. You cannot even differentiate one refined oil from another by its taste.

**Refined foods last longer**

Sugar, oil, white flour and white rice have a much longer shelf life than do the foods from which they have been manufactured. But we should not be interested in length of shelf life. We should rather be interested in increasing our own lifespan, which these foods help with because of their high caloric content and lack of nutrients.

In nature, no animal will eat stale food. Even insects are not interested in food without nutritional value. But for businesses, this means additional profit because stocks can be preserved much longer. The implications of eating whole foods are twofold:

- Until our body's nutritional needs are met, we will remain hungry. If we eat nutrient-dense foods, we need to eat less to get satiated.
- Our stomachs have a fixed capacity. If we consume more fibre, we will feel full while consuming fewer calories.

Think about it. There may have been a time when you had a bag of potato chips for lunch. Although these give you a large number of calories, when you finished you may have opened another. But if on another day you had a large salad for lunch it is highly unlikely that you would order a second one. Although the salad gave you less calories than the bag of potato chips, it gives you many more nutrients fibre and so it's more satisfying. It's also not addictive like fried food.

In south India, I often see people eating large quantities of white rice accompanied by
small amounts of sambhar or vegetables. Because white rice is nutritionally deficient, they make up for it by eating it in large quantities. But if they were to increase their intake of vegetables and lentils while substituting white rice with whole rice (unpolished rice), the quantity needed by the body would reduce considerably.

**Peeling**

One of the most difficult things to change is the habit of peeling fruits and vegetables even though we lose a lot of nutrients when we do so. Almost no vegetable, except perhaps onions and garlic, should be peeled. Rather, nothing that needs a tool should be peeled. Vegetables like knol khol [ganth gobi], where the skin is thick, fibrous and sometimes not edible, can be peeled with our teeth and fingers. Our body does have the tools to peel even these. Pineapple is one fruit that does need peeling. Jackfruit may be another. Interestingly, both these fruits have a higher glycaemic index than most fruits.

**What if the produce is not organic?**

A question that often arises when we talk about peeling is, 'What if the fruits and vegetables are not organic? Should they be peeled then?' There is a misconception that pesticides only reside in the skin of the produce when, in fact, the opposite is true. For example, when pesticides are sprayed at the bottom of a coconut tree, you will find it in the water of the coconuts as well. You are not escaping the pesticides by peeling, but you may just be under the false perception that you are. Although much better to use organic produce, in case you don't, it's still better to not peel and wash it well instead.

You may also like: [Using food as medicine](#)

**Wash before you chop**

Another important rule is to wash the produce well before chopping in order to not lose nutrients. Chopping followed by washing leaches nutrients out. Here is an
experiment that demonstrates this well. Take a fresh organic carrot and wash it. Divide it into three parts. Now grate the first part without peeling. Taste it. Now peel the second part, grate it and taste it. Finally peel the last part, grate it and drop it into a glass of drinking water. Leave it there for a minute and take it out and taste it. You will find that the taste and therefore, the nutritional value, reduces at every step.

Adapted with permission from *Reversing Diabetes in 21 days* by Dr Nandita Shah; published by Penguin Ebury Press.

Spot an error in this article? A typo maybe? Or an incorrect source? Let us know!

Nandita Shah

https://sharan-india.org/

Dr Nandita Shah is the founder of SHARAN, www.sharan-india.org, an organization devoted to disease reversal through food. She believes each of us can be our own best doctor most of the time. She received the Nari Shakti Award 2016 from the President of India.