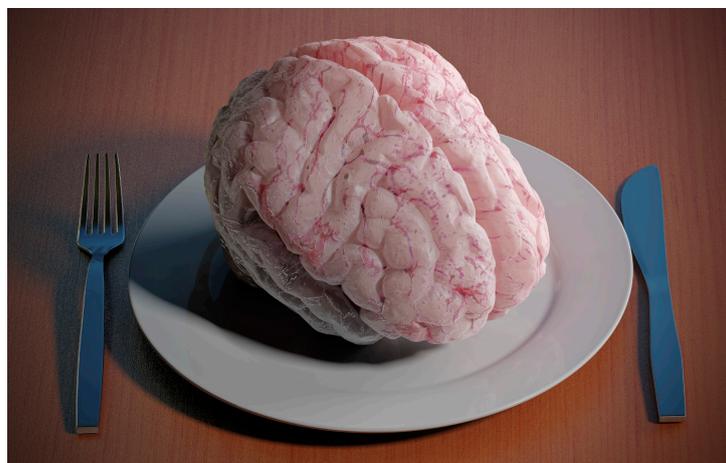


## Food and Mood

We all have good days and bad days; we all have foods we like more, or like less. But is there a connection between feeling fine and the foods we have eaten? Do some foods make us feel grumpy? Is it possible to plan a diet for a good mood?

### Carbohydrate = Glucose = Brain Power

The ability to concentrate and focus comes from the adequate supply of energy – from blood glucose – to the brain. Glucose is also vital to fuel muscles. The glucose in our blood comes primarily from the carbohydrates we eat – foods including fruit, vegetables, cereals, bread, sugars and lactose in milk. Eating breakfast and regular meals containing some carbohydrate ensures you will have enough glucose in your blood.



Not having enough glucose in the blood (hypoglycaemia) makes us feel weak, tired and 'fuzzy minded'. This may happen when we don't eat enough carbohydrate-containing food, and is a particular risk for people with diabetes and athletes. It can also happen with people following very restrictive diets or with erratic eating patterns. However, though glucose ensures good concentration and focus, once your blood glucose is within the normal range, you cannot further boost your brain power by increasing your glucose levels!

“ The ability to concentrate and focus comes from the adequate supply of energy. – from blood glucose – to the brain. ”

### Comfort eating

There is a messenger chemical in the brain called serotonin, which improves mood and how we feel. More serotonin is made when more of an amino acid called tryptophan enters the brain, and some researchers claim that this happens from eating foods that are high in carbohydrate and low in protein.

This theoretical ‘carbohydrate craving’ to improve mood has been used to explain the eating of sweet comfort foods such as cakes and chocolate. However, in practice there is not enough evidence to support a physiological basis for this effect, and some of the pleasure from eating these foods may come from their strong cultural associations with reward and special occasion. Suggestions that chocolate contains particular mood-enhancing substances are often made, and there are observations that people feeling a bit depressed are more likely to eat chocolate, but measured pharmacological effects do not seem to explain the popularity of this food as a comforter.

“ Some of the pleasure from eating ‘comfort foods’ may come from strong cultural associations with reward and special occasion. ”

### Caffeine and the ‘drug-effect’

Caffeine, found in coffee, cola and energy drinks, is often called a ‘drug’ as it acts as a stimulant and can improve the feelings of alertness, and counter the effects of fatigue. However there is also a suggestion that some of the effects of caffeine are more to ‘normalise’ the lower levels of alertness felt by habitual users who have not consumed enough caffeine that day. Too much caffeine, particularly in people who are not used to it, may cause the adverse effects of irritability and headache.



# Vitamins and minerals

When you don't eat enough, your body will lack vital vitamins and minerals, often affecting your mood and brain function. This table shows how missing some vitamins/minerals can affect your mood, and what you can eat to replenish your body.



Missing vitamin/mineral	Effect on mood	Foods which can help	Supplements*
<b>Iron</b>  This results in low levels of oxygen carrying haemoglobin in the blood, resulting in the condition anaemia	Feeling weak, tired and lethargic all the time	The risk of anaemia is reduced with adequate intakes of iron, particularly from red meat and also poultry and fish.  It may also be helped by avoiding drinking tea with meals	Anaemia can be treated with iron supplements
<b>Thiamine, niacin or cobalamin</b>  (all B vitamins)	Tiredness and feeling depressed or irritable	Fortified foods including cereals, and animal protein foods such as meat/fish and dairy	Supplements of B vitamins in combination or as single forms are available
<b>Folate</b>	Increased chance of feeling depressed, particularly important in older people	Folate is found in liver, green vegetables, oranges and other citrus fruits, beans and fortified foods such as 'marmite' and breakfast cereals	Folic acid tablets are a good supplement when folate levels are low.  Folic acid supplements are advised for all women planning pregnancy
<b>Selenium</b>	May increase the incidence of feeling depressed and other negative mood states.	Brazil nuts, meat, fish and bread	A supplement may help improve mood in some people not getting enough selenium from foods

\*Supplements can be used to treat people with low levels of vitamins and minerals. However, in the long-term, it is better to look at eating more foods that are naturally rich in these nutrients. This is because efficient absorption of vitamins is helped by other food components; for example, the fat soluble vitamins (A, D, E and K) are best absorbed when some fat is consumed at the same time.

## So does food affect mood?

There are many ways that foods can affect how we feel, just as how we feel has a large influence on what foods we choose. Some of the mood/food effects are due to nutrient content, but a lot of effects are due to existing associations of foods with pleasure and reward (chocolate) or diet and deprivation (plain foods). Some foods also have religious, economic and cultural significance which will influence how we feel when eating them.



As a rule, plenty of fruits and vegetables and wholegrain cereal foods, with some protein foods, including fatty fish, will support a good supply of nutrients for good health and good mood.



Feeling good comes from a diet that provides adequate amounts of carbohydrate at regular times to keep blood glucose levels stable, and that contains a wide variety of protein and vitamin and mineral containing foods to support the body's functions.



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