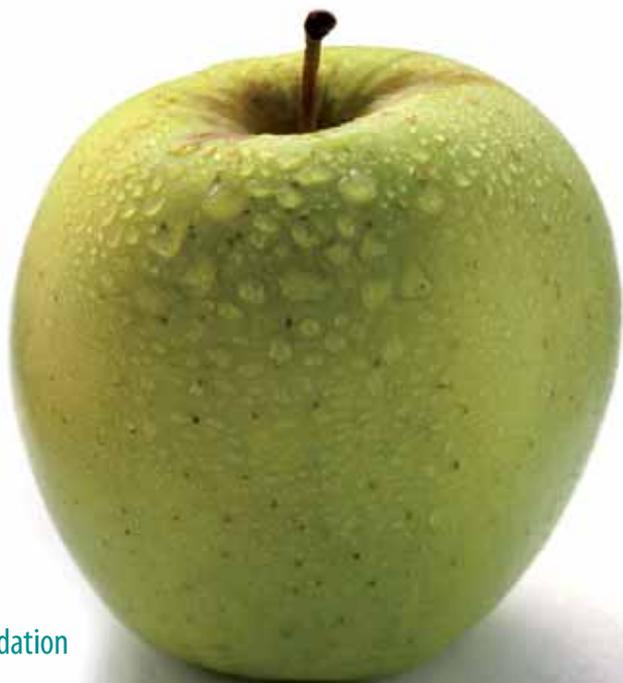


Healthy eating and depression

How diet may help protect your mental health



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Endorsed by the Mental Health Group of the British Dietetic Association



Diet and mental health

Most people are aware that a healthy diet is vital in order to reduce the risk of heart disease, diabetes, obesity and other common physical problems. Recent evidence also suggests that good nutrition may be just as important for our mental health and that a number of conditions, including depression, may be influenced by dietary factors.

Research in this area is still underway so it is not possible to draw any firm conclusions but the evidence does suggest that it is worth trying to follow a healthy diet in order to protect our mental health. Based on the evidence, this booklet suggests some positive changes you can make to improve your diet:

- Eat regularly throughout the day
- Choose less refined high sugar foods and drinks and more wholegrain cereals, pulses, fruit and vegetables
- Include protein at each meal
- Eat a wide variety of foods
- Include oily fish (omega 3 fatty acids) in your diet
- Maintain a healthy weight
- Maintain adequate fluid intake
- If you drink alcohol keep within recommended limits
- Exercise regularly

This advice is for anyone who wishes to protect their mental health through healthy eating. It is particularly relevant for people recovering from mild or moderate depression and suggests how changes to their diet can help improve their mood.

People with severe depression are encouraged to seek medical help as a priority.

While a healthy diet can help recovery, it should sit alongside other treatments recommended by your doctor.

Healthy Eating on a Budget

A healthy diet can be more expensive than a diet made up of more refined foods. Fish, fruit and vegetables can be particularly pricey. However, by cutting down on sugary drinks and snacks, takeaways and alcohol, you can save money to be spent on healthier items.

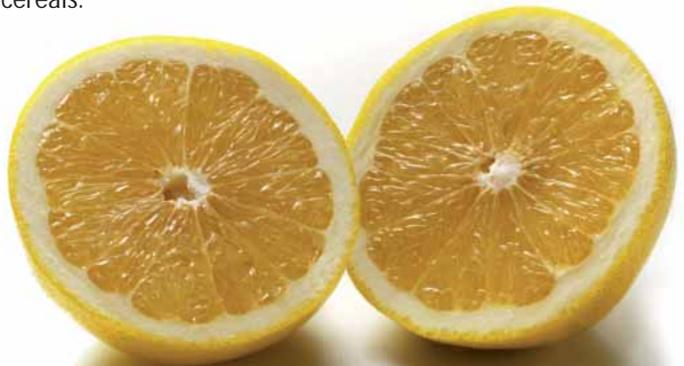
Take care to buy only as much as you know you can use within the next few days to reduce waste. You can also cut your costs by taking advantage of special promotions and by shopping at market stalls which are often cheaper than supermarkets.

If you live alone you could save money by splitting purchases with friends (larger pack sizes are usually cheaper) or by cooking several portions of a dish and freezing some of them. This also saves fuel and saves you the effort of preparing meals every day.

Frozen fruit and vegetables are often cheaper than fresh produce and are usually just as good nutritionally (with no wastage). Fresh fruit and vegetables are usually cheapest when they are in season while using beans, lentils and soy mince in cooking in place of meat can also cut costs.

1. Eat regular meals throughout the day to maintain constant blood sugar

Make sure you eat at least three meals each day. Missing meals, especially breakfast, leads to low blood sugar and this causes low mood, irritability and fatigue. If you feel hungry between meals you may need to include a healthy snack e.g. fruit/nuts/cereals.



2. Choose less refined high sugar foods and more wholegrain cereals, nuts, beans, lentils, fruit and vegetables

Sugary foods are absorbed quickly into the bloodstream (they may also be referred to as high glycaemic index foods). This may cause an initial 'high' or surge of energy that soon wears off as the body increases its insulin production, leaving you feeling tired and low.

Wholegrain cereals, pulses, fruit and vegetables are more filling and generally have a lower glycaemic index than processed foods. Because the sugar in these foods is absorbed more slowly it prevents mood swings. These foods are also nutritionally much better, containing thiamin (B1), a vitamin that has been associated with control of mood, and folate and zinc (supplements of these nutrients have been shown to improve the mood of depressed patients in a small number of studies).

Choose:

- Breads - select wholemeal and granary types rather than white. Also try rye breads, pumpnickel, wholemeal pitta bread, wholemeal chapattis, oat cakes, rice cakes and corn cakes.
- Breakfast cereals – choose high fibre, low sugar types e.g. wholegrain or bran cereals or porridge.
- Rice and pasta - choose Basmati and brown rice (this gives a nutty texture in salads). Use wholemeal pasta.
- Potatoes - serve boiled new potatoes in their skins (with a minimum amount of butter) or mashed or jacket potatoes. Potato wedges (lightly brushed with olive oil) are a lower fat alternative to chips and roast potatoes for those watching their weight. Try sweet potatoes or yams for a change - these are delicious baked and also have a low glycaemic index.

- Aim to eat at least 5 portions of fruit and vegetables a day e.g. 1 glass of orange juice or ½ grapefruit for breakfast, a banana or apple for a mid morning snack, salad at lunch time and then two types of vegetable (a portion is roughly 2 serving spoons) and a pear or baked fruit at the evening meal.

NB: Green vegetables should be cooked in a small amount of pre-boiled water, and should not be overcooked or you will lose much of the vitamin content.

Avoid sugar and sugary drinks, cakes, sweets and puddings. These are loaded with calories but have little nutritional value and may trigger a mood swing.

3. Include protein at each meal to ensure a continuous supply of the amino acid tryptophan to the brain

We all need to eat enough protein to maintain our skin, organ, muscle and immune function but recent research suggests that one particular component of protein, the amino acid tryptophan, is important in its effect on the brain, where it influences mood.

Supplements of tryptophan were tested in studies and in some were shown to improve the mood of depressed individuals. However, the supplements were not considered safe and were removed from the market.

However, you can ensure your brain gets a regular supply of tryptophan by including at least one good sized portion of protein at each meal i.e. meat, fish, eggs, milk, cheese, nuts, beans, lentils (dhal), or a meat substitute such as textured vegetable protein or mycoprotein. **NB:** peanuts are low in tryptophan so if you eat them at a meal-time include another source of protein (e.g. other nuts) at the same time.



4. Eat a wide variety of foods to keep your diet interesting and to ensure you obtain all the micronutrients you need

The more varied your diet, the more likely you are to obtain all the nutrients you need. If you have bread at one meal, try cereal or potatoes, rice or sweet potatoes at the others. Make sure you include at least two portions of different fruits and/or vegetables and a protein food at each meal. Include some red meat and fish, as they are good sources of vitamin B12, another nutrient that seems to be associated with the control of mood. If you are vegetarian or have a limited budget, include fortified soy mince and yeast extract to increase your intake of this vitamin.

5. Include fish, especially oily fish, in your diet

A few studies suggest that supplements of omega 3 oils may reduce symptoms in patients with depression on antidepressant medications. These studies are small but we know that a proper balance of omega 3 and omega 6 oils in the diet is important. It has been suggested that many of the modern inflammatory diseases may be due to an imbalance between the two.

In order to improve the balance:

- Include more omega 3 rich oily fish in the diet from sustainable fish stocks - between 2-4 portions weekly for most adults (but no more than 2 portions if you are pregnant or breastfeeding). If buying tinned fish, choose varieties in water, brine or tomato sauce rather than in sunflower oil (high in omega 6).
- If you fry food (e.g. stir-fries) use an oil high in monounsaturates e.g. olive or rapeseed oil
- Choose a monounsaturated margarine or butter for spreading. Avoid margarines or low fat spreads containing omega 6 polyunsaturated or hydrogenated trans fats (trans fats are damaging to your brain and arteries).
- Avoid processed foods such as pies, sausage rolls, crisps and cakes that are high in saturated and trans fats.

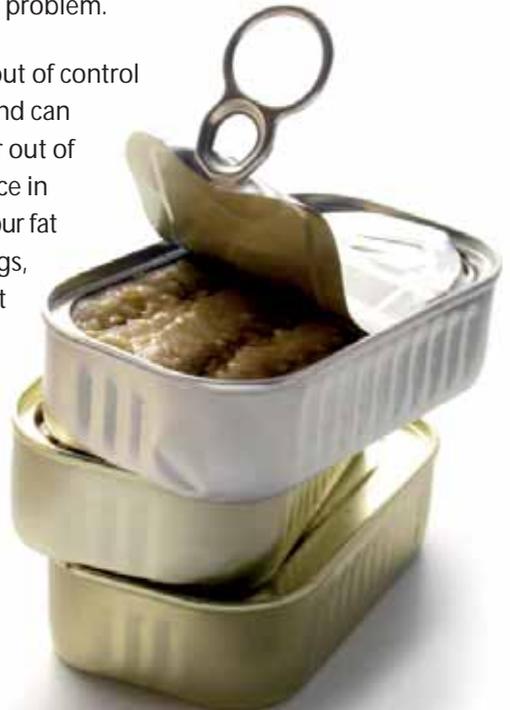
If you don't like fish you may wish to try an omega 3 supplement (choose one that is purified, contains no vitamin A and has a high eicosapenanoic acid (EPA) content – take no more than 1g EPA per day). If you are vegetarian, try a flax seed supplement (however, only a very small fraction of the omega 3 contained in plant products can be used by the body).

6. Maintain a healthy weight

Depression affects different people in different ways. Some people lose interest in food or can't be bothered to shop and cook, so lose weight. Others find they want to eat more when they are unhappy and gain weight. Anti-depressants can also significantly increase or decrease your appetite – if you are concerned that the medication you are taking has made your problems worse, speak to your doctor.

Both excessive weight loss or weight gain can make your mood worse and should be avoided. Weight loss and lack of good nutrition will deprive the brain of glucose and the other nutrients that control mood – you may need the advice of a dietitian to help you overcome this problem.

Putting on weight unintentionally or feeling out of control of your eating can increase your depression and can lead to yo-yo dieting which leaves you further out of control. If you are overweight, follow the advice in previous sections but be extra careful to limit your fat and sugar intake (no fries, pies, cakes, puddings, sweets, chocolate or sweet drinks), use less fat in cooking, reduce your alcohol consumption and increase your exercise levels.



7. Maintain adequate fluid intake

Not drinking enough fluid has significant implications for mental health. The early effects of even mild dehydration can affect our feelings and performance, often characterised by restless or irritable behaviour.

During an average day in the UK an adult's body loses approximately 2.5 litres of water through the lungs as water vapour, through the skin as perspiration or through the kidneys as urine. If sufficient fluids are not consumed to replace this loss then the symptoms of inadequate hydration can appear, including increased irritability, loss of concentration and reduced efficiency in mental tasks.

Coffee, colas, some energy drinks and tea all contain caffeine, which some people use to boost energy levels. However, evidence suggests that in large quantities caffeine can increase blood pressure, anxiety, depressive symptoms and sleep problems. Caffeine also has a diuretic effect in the body that encourages the production of urine and therefore the release of fluids. For this reason you should not rely solely on caffeine based fluids.

If you do choose to use caffeinated drinks it is advisable to limit caffeine intake to the equivalent of no more than 3-4 cups of coffee per day and to drink other fluids such as water, fruit juice and non-stimulant herbal teas at other times. Remember chocolate also contains caffeine and should be limited to an occasional treat.



8. Limit your alcohol intake

Alcohol has a depressant effect on the brain so can result in a rapid worsening of your mood. It is also a toxin that has to be deactivated by the liver. During this detoxification process the body uses thiamin, zinc and other nutrients and this can deplete your reserves, especially if your diet is poor. Thiamin and other vitamin deficiencies are common in heavy drinkers and these deficits can cause low mood, irritability and/or aggressive behaviour as well as more serious and long-term mental health problems.

Because the body uses important nutrients to manage the processing of alcohol, people who experience depression should consider abstaining from alcohol use until they have recovered. Even then, because of alcohol's depressant effects they should consider drinking only small amounts, perhaps no more than once a week.

If you do wish to drink alcohol it is important not to exceed the recommended safe limits i.e. 14 units for women and 21 units for men per week.

If unsure how to quantify your alcohol intake, check the table below:

1 unit =	1 small glass wine	(8 % ABV)
	½ pint beer or lager	(3.5 % ABV)
	1 single measure spirits	(40 % ABV)
	1 small glass sherry or port	(20 % ABV)

NB: % ABV is the “percentage alcohol by volume”, i.e. the strength of the drink. If the % ABV is higher than the examples listed above, then that drink contains more units of alcohol.



9. Exercise regularly

Exercise leads to the release of endorphins - feel good chemicals that help us to relax and to feel happy. Exercise is particularly important for those with depression as it also gives structure and purpose to the day. Outdoor exercise that exposes us to sunlight is especially valuable as it affects the pineal gland, directly boosting mood.

If you are trying to control your weight, exercise has some other advantages too. For example, the more you exercise, the less you need to cut down on your calorie intake to control your weight. It is also beneficial for heart health and it ensures that as fat is lost muscle is still retained, resulting in a more toned body. Exercise also prevents the loss in bone mass and increased risk of osteoporosis that can occur with dieting in the absence of exercise.

There is no need to join a gym - walking is the easiest and best form of exercise and it can be built up as your fitness level increases. Swimming is good for those who have joint problems and find it difficult to weight-bear and cycling is a good way of travelling to work. Whatever kind of exercise you choose, try to start with 20 minutes at least three times a week and increase as your fitness improves.



10. Nutritional supplements

At the moment the evidence is not strong regarding the benefits of nutritional supplements but if you decide to try them consider:

- Choosing a complete 1-a-day multivitamin / mineral preparation containing the full recommended daily intake of each vitamin and mineral. These products are relatively safe as they do not contain excessive amounts of any single nutrient (but you should avoid other supplements containing these nutrients, in particular vitamin A as it is toxic in high doses).
- If your doctor prescribes vitamins or minerals for you make him/her aware of the products you are already taking.
- If you do take a multivitamin supplement, avoid liver and other offal products, such as pate, as these are also high in vitamin A.
- It is important to remember that supplements are not an alternative to a healthy diet and you should still maintain a varied and balanced diet.

Sample meal pattern

Breakfast:

½ grapefruit / fruit juice

Cereal e.g. wholegrain or bran cereal / porridge,
with semi-skimmed milk

Or 1-2 slices wholemeal bread / toast with scraping of
monounsaturated spread / butter, and kippers /
egg / grilled bacon / baked beans

Tea / coffee / herbal tea / water

Mid morning:

Tea / coffee / herbal tea / water

Fruit / nuts



Lunch:

1-2 slices wholemeal or pitta bread sandwich with scraping of monounsaturated spread / butter and filling of fish / meat / egg / cheese / humus / meat substitute / nut butter, with salad

Or jacket potato with baked beans / tuna and corn / chilli con carne / prawn filling, and salad

Or soup e.g. pea and ham / farmhouse broth, and bread

Or salad with meat / fish / egg / cheese, and bread

Or cooked meal - see below

Fruit / yoghurt

Tea / coffee / herbal tea / water

Mid afternoon: Tea / coffee / herbal tea / water

Fruit / fruit and nuts / mixed seeds

Dinner:

2tblsp Basmati or brown rice / wholemeal chapattis / wholemeal pasta / new potatoes / sweet potato / yam / couscous and 100-120g meat / fish / eggs or bean / lentil dish e.g. chilli con carne / rice and peas / dhal / stir-fried prawns and vegetables and 2 portions of green and root vegetables / large mixed salad

Fresh / tinned fruit / baked fruit and low fat crème fraiche / yoghurt

Tea / coffee / herbal tea / water

Supper:

Small bowl of cereal, as breakfast, or toast and yeast extract / nut butter / cheese



The Mental Health Foundation

Founded in 1949, the Mental Health Foundation is the leading UK charity working in mental health and learning disabilities.

We are unique in the way we work. We bring together teams that undertake research, develop services, design training, influence policy and raise public awareness within one organisation. We are keen to tackle difficult issues and try different approaches, many of them led by service users themselves. We use our findings to promote survival, recovery and prevention. We do this by working with statutory and voluntary organisations, from GP practices to primary schools. We enable them to provide better help for people with mental health problems or learning disabilities, and promote mental well-being.

We also work to influence policy, including Government at the highest levels. We use our knowledge to raise awareness and to help tackle stigma attached to mental illness and learning disabilities. We reach millions of people every year through our media work, information booklets and online services. We can only continue our work with the support of many individuals, charitable trusts and companies. If you found this booklet useful and would like to make a donation, please call us on 020 7803 1121.

To find out more visit www.mentalhealth.org.uk

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The British Dietetic Association

The British Dietetic Association, founded in 1936, is the professional association for registered dietitians in Great Britain and Northern Ireland. It is the nation's largest organisation of food and nutrition professionals with nearly 6,000 members. About two-thirds of members are employed in the National Health Service. The remaining members work in education, industry, research, sport settings or freelance.

Registered dietitians hold the only legally-recognised, graduate qualification in nutrition and dietetics. They are experts in interpreting and translating the science of nutrition into practical ways of promoting nutritional well-being, disease treatment and the prevention of nutrition-related problems. Their advice is sound and based on current scientific evidence.

Registration, awarded by the Health Professionals Council, is an indication that a dietitian is fit to practise and is working within an agreed statement of conduct.

The BDA has dietetic experts working in a variety of specialties, including mental health, diabetes management, public health, obesity, paediatrics, sport nutrition, community nutrition, HIV and AIDS, catering, elderly nutrition, allergies, renal nutrition, heart health and thoracic issues, multi-cultural nutrition, oncology, and clinical/artificial nutrition.

For further information about the British Dietetic Association visit www.bda.uk.com



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Visit www.mentalhealth.org.uk/campaigns/food-and-mental-health/ for more information about the links between food and mental health. Our online resources include recipes, a nutrient table and an interactive guide to which foods may have an impact on particular conditions.

To order further copies of this booklet
email mhf@mhf.org.uk or call **020 7803 1101**

