



DEPRESSION: THE IMPACT OF NUTRITIONAL MANAGEMENT

Depression is a common mental disorder, affecting more than 264 million people worldwide. Alongside antidepressants as treatment, talking therapies are seeing positive outcomes and are now becoming more accessible. How food impacts brain function and mood control is another area of treatment that is gathering momentum.



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At its most severe, depression can lead to suicide, of which, heartbreakingly, there are close to 800,000 deaths per year. Depression is a multifactorial illness, underpinned by complex psychological, social and biological influences and, although a mental illness, depression is understood to have a bidirectional relationship with physical health. An example of this is the relationship between cardiovascular disease and depression and vice versa.¹

Antidepressant drugs cause changes to the chemistry in the brain, affecting the neurotransmitters adrenaline, nor-adrenaline and serotonin, resulting in mood regulation. The main groups of antidepressants fall into the following categories:²

- Selective serotonin reuptake inhibitors (SSRIs)
- Serotonin and norepinephrine reuptake inhibitors (SNRIs)
- Tricyclics and related drugs
- Monoamine oxidase inhibitors

Although these medications have been shown to be successful in some people, they are not successful for all. It can take a trial and change approach to find the right medication for the right

person. However, the complexity of depression has already been mentioned and medication is just one part of the puzzle. Talking therapy is commonly prescribed or encouraged alongside medical intervention.

TALKING THERAPIES

A systematic review of talking therapies found that cognitive behavioural therapy (CBT), mindfulness-based cognitive therapy and interpersonal psychotherapy all reduced the risk of depression relapse over a year by 20 to 25% compared with a control treatment. More significantly, the positive effects of CBT for depression were sustained for up to two years.³

The NHS Improving Access to Psychological Therapies (IAPT) programme has allowed talking therapies to receive more funding, so that they are becoming increasingly more available and accessible. However, in reality, I think it's fair to say that the postcode lottery to health still exists. Crisis-support services and charities are invaluable resources, especially where access to NHS support is limited. The NHS website has a great A-Z list of organisations to signpost clients to.⁴

NUTRITION MANAGEMENT

Whilst the talking therapy treatments mentioned above are now fairly well known, the role of nutrition in the prevention and management of depression is less so. However, interest in this area (being termed 'nutritional psychiatry') is growing rapidly. Symptoms that people with depression may experience can vary, but they can also coincide with reasons for referral to a dietician, such as appetite changes, food avoidance and food cravings. All of these can impact on a person's eating behaviours, self-care and long-term physical health.⁵

It is also important to recognise that working towards behaviour change interventions requires motivation, confidence and readiness, which can often be challenging with a person presenting with low mood or depression. It could be that encouraging the client to ask the GP for a review of antidepressant medication, or referral to talking therapies might be what is required before meaningful dietetics can take place.

MACRONUTRIENTS AND DEPRESSION

Nutrition and physiology have close and complex working relationships in the body, and mental health is no exception. Firstly, let's consider the impact of food on brain function. Over half of the brain is made up of fat. Exposure to essential brain-healthy fats during the foetal and postnatal periods is important for optimal development.

Once the critical development stages have passed, essential fatty acids continue to play an active role in the formation of neurotransmitters.⁶ Over time, the typical western diet has become high in saturated fats and low in unsaturated fats, especially polyunsaturated fats and essential fatty acids like omegas. This change in dietary patterns has been associated with brain inflammation and is understood to contribute to cognitive impairment and mood disorders.⁷ More specifically, this is understood to be a reflection of the change in omega-3 and 6 consumption ratios. It is thought that the typical diet, once equal in omega-3 and 6, now contains significantly higher omega-6, which carries with it the implication of disease.⁸

Continuing with the topic of inflammation, a recent systematic review concluded that a diet rich in vegetables, fruits and fish is shown to reduce the risk of depression and its symptoms, whereas a pro-inflammatory diet (sweets, simple carbohydrates, high-fat products and red and processed meat) increases the risk.⁹

Another important dietary consideration is glucose, the preferred energy source for brain and neurotransmitter functioning. Glucose uptake to the brain accounts for up to 20% of total glucose utilisation, and it is understood that disruption here has critical implications for brain physiology, the effects of which are often seen in other parts of the body or displayed behaviourally.¹⁰ Furthermore, carbohydrate intake is believed to have a direct impact on serotonin levels,¹¹ a neurotransmitter that has actions in mood control, sleep, pain sensitivity and blood pressure regulation.

When considering the interaction between carbohydrates and mood control, the idea of comfort eating makes a lot of sense. Soothing a low mood with high-carb foods can provide a short-term emotional boost. But if these carbs are the simple processed kind, then the short-term emotional gain is counteracted by physical consequences longer term, due to pro-inflammatory and adverse effects to psychological health.¹²

A systematic review found a diet with added sugar, fizzy drinks and junk food was associated with increased risk of depression.¹³ Another study found an increase in depressive symptoms for every 10% increase of the proportion of processed foods.¹⁴ This might suggest that the consequence of eating refined carbohydrates as a mood pick-me-up might be more worrisome when occurring regularly, rather than occasionally – which reads well to me! Additionally, with the increasing trend of low-carbohydrate diets, the understanding of their implication in possible mood disruption should be communicated to those clients wishing to follow them. Providing education on the differences between more and less healthful carbohydrate sources seems a useful strategy in managing mood.

When it comes to protein, several studies have reported on its role in treating mood disorders including depression. Amino acids are required in the production of neurotransmitters. Tyrosine and phenylalanine are understood to convert into dopamine and norepinephrine, and deficiency has been linked with brain damage and mental retardation, whereas tryptophan is understood to interplay with carbohydrate for the production of serotonin.⁵ Including a variety of protein sources will allow for a range of amino acids, which contribute to a healthy functioning of the brain. Dietitians need to use clinical assessment to assess protein requirement, which can range from 0.8-2.0 grams per kilogram body weight. However, attention to the assessment is

important and will include factors such as any current physical health diagnosis, participation and intensity of any regular exercise and acute disease status.¹⁵

CONCLUSION

The above information suggests that dietary patterns based on regular and balanced meals, with awareness of appropriate portioning and general healthy eating messages, are protective against depression. Particular interest should be paid to essential fatty acids and sources of dietary inflammation. Dietitians and registered nutritionists have a role to play in the prevention and management, as part of a multiway approach, of the complex illness that is depression.

For more reading, the BDA have food fact sheets on both *Food and Mood*¹⁶ and *Depression and Diet*.¹⁷ For a more detailed read, the book *Brian Changer* by Professor Felice Jacker is recommended.¹⁸

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Questions relating to: *Depression: the impact of nutritional management*

Type your answers below, download and save or print for your records, or print and complete by hand.

Q.1	Summarise why depression is a multifactorial/multipathway illness.
A	
Q.2	How can antidepressants help those suffering from depression?
A	
Q.3	Provide three of the findings from the 2015 NIHR systematic review on talking therapies and depression (reference 3).
A	
Q.4	When would it be appropriate to refer a patient with depression to a dietitian?
A	
Q.5	Explain the changes in dietary patterns that may contribute to cognitive impairment and mood disorders.
A	
Q.6	Why is glucose an important dietary consideration?
A	
Q.7	What is the impact of carbohydrates on mood control?
A	
Q.8	Explain the importance of clinically assessing protein requirements in the treatment of mood disorders including depression.
Please type additional notes here.	