

15

You Are What You Eat

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The old saying “You are what you eat” may have some truth to it. Most of us have likely experienced, in one way or another, how food can make us feel bad after eating it. May be you have felt uncomfortable and tired after a big thanksgiving meal or energised to start your morning after a healthy fruit smoothie. Food affects both our physical and mental health. ‘Our food makes our Mood’ is very true in this context. The documentary ‘Super size me’ is a very extreme depiction of how food can make someone feel. In this 2004 movie, Morgan Spurlock sets out to eat only McDonald’s food 3 times per day for 30 days to explore the connection between the obesity epidemic and the increased intake of fast food. He consumes nothing not even water unless it comes from McDonald’s and if he’s ever asked to super size a meal, he has to say yes, hence the title. In addition, he restricts his physical activity. Not only does the diet wreak havoc on his physical health, in terms of weight gain, high cholesterol and high blood pressure, but it takes a huge toll on his mental health. By the middle of the month of this fast food diet, he claimed he was suffering from massive headaches and had never been so depressed in his life. In addition, his energy level was extremely low. So his unhealthy food habit makes his mood irritable and depressing.

What we eat can determine how we feel but how we feel can also determine what we eat. Food and chemicals in our brain interact to keep us going throughout the day. It is important to eat a variety of healthy foods, as they have different effects on our brains, for example carbohydrates increase serotonin, a brain chemical that has a calming effect. Perhaps that's why people often crave carbohydrate-rich food when they are under stress. Protein-rich foods increase tyrosine, dopamine, and norepinephrine, which help to increase alertness. In addition, certain healthy fats (omega3falty acids) become part of the membranes of brain cells and control many brain processes. Poor nutrition or lack of a variety of healthy foods can contribute to depression by limiting the availability of these specific nutrients. Junk food doesn't contain the nutrients your body needs to stay healthy. As a result, we may feel chronically fatigued and lack the energy you need to complete daily tasks. Good nutrition is an important component of an improved mood and an increased sense of well being.

But in Today's scenario commercial food forms the life-line of all urban population. Industrialisation, urbanization and a rapid increase in working class have made commercial food an attractive alternative, although saving our time and energy, yet compromising the nutritional value of our food. The aim of this paper is to highlight the deleterious impact of junk food on the

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mental health.

The brain is the platform for the mind and therefore the platform for our mental health. While our understanding of how the brain works is less advanced than our understanding of the body's other organs, much of the practical knowledge we do have of the brain has yet to be embraced and put to good use. One of the clearest examples is the role of nutrition in relation to mental health. We know that the brain is made up of large part of fatty acids, water and other nutrients. We know that food affects how we feel, think and behave. In fact, we known that dietary interventions may hold the key to the number of the mental health challenges our society is facing.

Mental health problems are believed to be the result of a combination of factors, including age, genetics and environmental factors. One of the most obvious, yet under-recognised factors in the development of major trends in mental health is the role of nutrition. The body of evidence linking diet and mental health is growing at a rapid pace. As well as its impact on short and long term mental health, the evidence indicates that food plays an important contributing role in the development, management and prevention of specific mental health problems such as depression, schizophrenia, attention deficit, hyper activity disorder and Alzheimer's disease

How food and food production are implicated in mental health?

Most of the brain is derived directly from food. The last fifty years have witnessed remarkable alterations to what we eat, how we process and refine it, food additives, use of pesticides and the alteration of animal fat through intensive farming. Changes to our diet in recent years mean that what we consume daily is very different in its nutritional content from that our closest ancestors.

It has been estimated that the average person will eat more than 4 kilograms of additives every year. Changing methods of farming have also introduced higher levels and different types of fat into our diet. For example, chickens now reach their slaughter weight twice as fast as they did thirty years ago, which has changed the nutritional profile of the meat. Also, the diet fed to chickens has changed dramatically, which has reduced omega-3 fatty acids and increased omega-6 fatty acids in the chicken meat. Similarly, the diet fed to farmed fish is changing the ratio of fatty acids in the fish we eat.

How fats and amino acids work in our brains?

The fats we eat directly affects the structure and substance of the brain cell membranes. The saturated fats- those that are hard at room temperature, make the cell membranes in our brain and body tissue less flexible.

Twenty percent of the fat in our brain is made from the essential fatty acids-omega-3 and omega-6. They are termed as essential as they cannot be made within the body, so must be derived directly from the diet. Each fatty acid performs vital functions in the structuring of brain cells (or neurons), ensuring that smooth communication is possible within the brain. Both are found in equal amounts in the brain, and it is believed that they should be eaten in equal amounts.

Unequal intakes of omega-3 and omega-6 fats are implicated in a number of mental health problems, including depression, and concentration and memory problems. Experts suggest that most people consuming western diets eat too much omega-6 and not enough omega-3. Neurotransmitters are messengers passed back and forth within the brain. They allow neurons

to communicate information amongst themselves. Neurotransmitters are made from amino acids, which often must be derived directly from the diet. For example, the neurotransmitter serotonin, which is associated with feelings of contentment, is made from the amino acid tryptophan. Adrenaline and dopamine, the ‘motivating’ neurotransmitters, are made from phenylalanine.

The role of diet in relation to mood and mental well being

Just like the heart, stomach and liver, the brain is an organ that is acutely sensitive to what we eat and drink. To remain healthy, it needs different amounts of complex carbohydrates, essential fatty acids, amino acids, vitamins, minerals and water.

Anyone who has ever smoked, drank alcohol, tea or coffee or eaten chocolate knows such products can improve one’s mood at least a little and temporarily. What seems to be less common is an understanding that some foods can have a lasting influence on mood and mental well being because of impact they have on the structure and function of the brain.

A sufficient balance of neurotransmitters is essential for good mental health, as they are influential in the feelings of contentment and anxiety, memory function and cognitive function. Some foods are perfect at temporarily promoting the neurotransmitter that we lack and as we crave and then consume them, they trick us into feeling better, for a while.

The role of diet in relation to specific mental health problems

Depression

A number of cross-country and population-based studies have linked the intake of certain nutrients with the reported prevalence of different types of depression. For example, correlations between low intakes of fish by country and high levels of depression among its citizens – and the reverse - have been shown for many types of depression. Complex carbohydrates as well as certain food components such as folic acid, omega-3 fatty acids, selenium and tryptophan are thought to decrease the symptoms of depression. Those with low intakes of foliate, or folic acid, have been found to be significantly more likely to be diagnosed with depression than those with higher intakes. Similar conclusions have been drawn from studies looking at the association of depression with low levels of zinc and vitamins B1, B2 and C. In other studies standard treatments have been supplemented with these micronutrients resulting in greater relief of symptoms in people with depression and bi-polar affective disorder, in some cases by as much as 50%. One way that vitamins and minerals may improve mental health and cognitive function is through their role in the brain’s conversion of amino acids. Much has been said in public fora about the importance of the neurotransmitter serotonin, and its presence in lower levels being linked to depression. Because of this, the precursor to serotonin – the amino acid tryptophan – has been the focus of much research. Some studies have found that combining tryptophan with selective serotonin reuptake inhibitor (SSRI) antidepressants gives better results than SSRIs alone. Other dietary alterations can ease or hinder the entry of tryptophan to the brain.

Schizophrenia

Studies have looked at the impact of specific nutrients on the rates of schizophrenia in the general population, focusing on fats and antioxidants. Epidemiological evidence has shown that people with schizophrenia have lower levels of polyunsaturated fatty acids in their bodies than

those with no experience of the illness. Other research has shown that antioxidant enzymes are lower in the brains of people with schizophrenia. Further work is needed in this area to identify specific mechanisms through which diet can work alongside other care options to alleviate the symptoms of schizophrenia.

Alzheimer's Disease

Specific connections have been found between the occurrence of Alzheimer's and different intakes of foods, including saturated fat, vitamins and minerals. Although there have been few controlled clinical trials testing the effects of nutritional treatments, most evidence points to the role of nutrition in the prevention of, rather than the treatment of Alzheimer's Disease. Many of the studies have shown a positive association between saturated fat intake and the incidence of dementia, and a negative relationship between the incidence of dementia and intake of polyunsaturated fatty acid. One study looking at the total fat intake of eleven countries found a correlation between higher levels of fat consumption and higher levels of Alzheimer's Disease amongst over 65's. Other studies have explored the protection from Alzheimer's that has been linked with high vegetable consumption. One long term population-based study found that high intakes of vitamins C and E were linked to a lower risk of AD, particularly among smokers, and this finding has been replicated in other studies. 8 Attention Deficit Hyperactivity Disorder (ADHD) Many parents, teachers and others have reported great improvements when dietary changes are introduced to children with ADHD. Two food groups that have been implicated through clinical research are essential fatty acids (EFAs) and minerals. Studies have found some EFAs to be significantly low in hyperactive children. A similar relationship has been found with levels of iron in children with symptoms of ADHD.

Conclusion

In fact, many articles about how food affects our mood have been published. Some foods include both positive and negative affections for our health and mood. We know that our dietary choices affect our physical health, but not many people expect food to have deep relationship with moods. However if we learn and care about foods, we can take much advantage to manage our moods and gain better health thus better life.

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