

How sugar can reduce brain power (and Omega 3's may increase it)

It may seem obvious, but diets high in sugar are bad for our health. There is lots research and evidence on the negative effects of too much sugar on weight, diabetes risk, liver function and even cancer risk. Up until now, there has not been much evidence on the damage too much sugar does to the brain. However a recent UCLA study has shed some light on negative effects of sugar on the brain and the positive effects of omega 3's. Researchers have found that sugar may actually reduce brain function. Eating a diet high in omega-3 fatty acids (found primarily in oily fish) seems to counteract these negative effects. The research was published recently in the *Journal of Physiology* and reported on extensively by Forbes.

Researchers at University of California, Los Angeles (UCLA) did research on lab rats. Before the study, the rats needed a few days to learn to navigate a maze set up by researchers. Then some of the rats were given diets rich either high in omega-3 fatty acids or lacking omega 3s. The last group of rats were given a sugary solution in the place of regular drinking water. After six weeks on their respective diets, researchers put the rats back in the maze to see how their memory recalled it the maze routes previously learnt.

The rats that had diets lacking in omega-3 were slower at navigating the maze than the ones who had diets rich in omega-3s. The rats given the sugary solution instead of water showed the slowest brain function.

The rats given diets without omega-3s had higher insulin and glucose levels; they seemed to develop a type of pre-diabetes but this was reversed by omega-3s. Omega-3 fatty acids contain the essential fatty acids, eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), that reduce inflammation in the body.

According to the author of the study, Professor Fernando Gomez-Pinilla from the UCLA Medical School, the rats deprived of DHA had trouble thinking clearly and were unable to recall routes learned weeks earlier. DHA is an important fatty acid in omega 3 that is thought to aid brain function.

Professor Gomez-Pinilla suggests that sugar may block the effect of insulin on brain cells thus influencing our thoughts and reducing our ability to have crisp or clear thoughts.

It is important to remember that not all sugar is created equal. Professor Gomez-Pinilla explains that natural fructose (the type of sugar) found in fruits are safe and contain natural antioxidants; however manufactured food products such as artificial sweeteners and preservatives can be harmful. He is especially concerned with "high-fructose corn syrup" which is the most common sweetener used in America but thankfully more restricted in Europe; however there are many unnatural sugars in the Irish diet which can cause problems.

This study seemed to show that Omega-3s counteract the effect of sugar. However it also shows the importance of cutting down on highly processed, high-sugar foods. Our bodies are not very good producers of DHA and EPA (the essential fatty acids that make up omega 3); therefore a diet rich in fatty acids is very beneficial. The best sources of DHA/EPA are oily fish like mackerel, tuna, sardines and salmon. For vegetarians and those that do not like fish, flaxseed oil which is also known as linseed oil is six times richer than most fish oils in and its oil are perhaps the most widely available botanical source of omega 3. You can buy flaxseed in supermarkets and you can add to the likes of porridge and yogurt to boost your omega 3 levels.

The conclusion is that omega-3s may protect our brains, not just now, but in the future. Professor Gomez-Pinilla says the findings suggest that consuming DHA regularly protects the brain against sugar's harmful effects. He compares it to saving money in the bank. We need a reserve for the brain to use when it needs extra fuel to fend off future diseases.

While studies in animals have no guarantee of the same effect in humans, the findings do seem to mirror the results of other studies on sugars and omega 3's.

Which fish oil to choose?

The best way to get omega 3 is naturally through your diet. For people who do not eat sufficient fish oils, I recommend a fish oil supplement called MorEPA[®] as it contains the highest level of pure omega 3 fatty acids (EPA and DHA) of any fish oil supplement on the market. PlusEPA[®] is a potent omega 3 supplement specifically designed to ease symptoms of mood disorders such as depression and anxiety. For those suffering from joint pain and inflammatory conditions like arthritis, I find that a fish oil supplement called Lyprinol[®] gives relief in many people as it has a more potent anti-inflammatory effects than other fish oils. Fish oils should never be considered an alternative to proper medical intervention.

Disclaimer: Advice in this article is general. For more specific advice and information on diet and food, you should speak to a dietician or nutritionist

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