

Associations between food intake and perceived stress or depressive symptoms among youth

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Stress is the most common cause of sickness worldwide today among the youth, and the population at large causing unspeakable suffering, use of huge amounts of money in medical bills and loss of numerous working days. Stress refers to non specific response of the body to any demand or strain made upon it. The aim of stress management is to help the individual become more resilient and able to cope rather than to take away the stressful life events. A well balanced diet is crucial in promoting health and stress relief. Vigilance is required when making food choices for stress management which should be as natural as possible, as there is a lot of junk food posing as health food for stress relief in the market.

Food to eat for stress relief:

Carbohydrates:

Carbohydrates in stress management triggers release of the brain neurotransmitter serotonin which has soothing effect. Good sources of carbohydrates include rice, potatoes, green bananas, bread, air-popped popcorn etc. Consumption of meals with different macronutrients, especially high in carbohydrates, may influence stress-related eating behaviour. They aimed to investigate whether consumption of high-protein vs. high-carbohydrate meals influences stress-related mood, food reward, *i.e.* 'liking' and 'wanting', and post-meal energy intake. Consumption of a high-protein vs. high-carbohydrate meal appears to have limited impact on stress-related eating behaviour. Only participants with high disinhibition showed

decreased subsequent 'wanting' and energy intake during rest; this effect disappeared under stress. Acute stress overruled effects of consumption of high-protein foods (Lemmens *et al.*, 2011).

Fresh fruits and vegetables:

Eat plenty of fresh fruits and vegetables in order to improve absorption of the amino acid L-Tryptophan, which causes the body to release serotonin making you feel good and relaxed as a result of stress relief.

Protein:

Include sufficient protein in your daily diet for effective stress management. Consuming adequate protein stabilizes blood sugar and prevents emotional swings and fatigue leading to stress relief. Good protein sources include meat, mushrooms, nuts, hard boiled eggs, Tofu and other soy products, dairy, beans. Lakhan and Viera (2010) did a study on Nutritional and herbal supplements for anxiety and anxiety-related disorders. It was a systematic review. They says that nutritional and herbal supplementation is an effective method for treating anxiety and anxiety-related conditions without the risk of serious side effects. There is the possibility that any positive effects seen could be due to a placebo effect, which may have a significant psychological impact on participants with mental disorders. However, based on this systematic review, strong evidence exists for the use of herbal supplements containing extracts of passionflower or kava and combinations of the amino acids like L-lysine and L-arginine as treatments for anxiety symptoms and disorders. Magnesium-containing supplements and other herbal combinations may hold promise, but more research is

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needed before these products can be recommended to patients.

Fibre:

Stress causes stomach cramps and constipation; you require at least 25 g of fibre daily to keep your digestive system working well during stress management for effective stress relief. Vegetables fruits and whole grains are natural sources of fibre and are good for stress relief. Eat whole fruits instead of juice and whole –grain instead of processed grain for better stress management.

Unsaturated fat:

Essential fatty acids (EFAs) like Omega 3's fatty acids are great for stress management as they can prevent and relief anxiety and depression .Good food sources of EFAs include salmon, tuna, sardines, fish oil pills ,and walnuts. Food with a small amount of oil daily to supply EFAs is good for stress relief. Higher intake of omega-3 fatty acids (n-3 FAs) is associated with a reduced risk of Alzheimer's disease (AD) and milder forms of cognitive impairment (*e.g.* cognitive impairment no dementia (CIND); however, findings from interventional trials are inconsistent. This meta-analysis examined the neuropsychological benefit of n-3 FAs in randomized double-blind placebo-controlled studies (RCTs) including healthy, CIND, or AD subjects. These results suggest an effect of n-3 FAs within specific cognitive domains in CIND, but not in healthy or AD subjects. (Mazereeuw *et al.*, 2010) Psychiatric disorders are a significant source of disability worldwide. Increasing evidence indicates that disturbances of fatty acids and phospholipid metabolism can play a part in a wide range of psychiatric, neurological, and developmental disorders in adults. Essential fatty acids, ω -3 and ω -6 polyunsaturated fatty acids, play a central role in the normal development and functioning of the brain and central nervous system. The literature shows that ω -3 fatty acids provide numerous health benefits and that changes in their concentration in organisms are connected to a variety of psychiatric symptoms and disorders, including stress, anxiety, cognitive impairment, mood disorders, and schizophrenia (Perica and Delas, 2011).

Foods to avoid for good health:

Saturated fats:

consumption of food rich in saturated fats cause obesity and put unnecessary stress on the cardiovascular system. A high fat diet is believed to contribute various cancers.

Sugar:

Sugar has no essential nutrients and only provides a short-term boost of energy resulting in exhaustion of the adrenal glands which can lead to irritability, poor concentration and depression. When individuals don't eat enough food, or don't eat healthy enough food (too little protein and healthy

carbohydrates, too much sugar, etc.) They can experience blood sugar fluctuations. These fluctuations can lead to mood swings, fatigue, poor concentration and other negative consequences in the short term, and greater health problems like hyperglycemia in the long run.

Caffeine:

This is found in coffee, tea, and chocolate. It causes the release of adrenaline undermining stress relief. There is a link between caffeine intake, high blood pressure and high cholesterol levels. Reduce the consumption of caffeine gradually during stress management to avoid developing withdrawal symptoms.

Alcoholic drinks:

Alcohol is a major cause of stress; unfortunately most people take to drinking alcohol for stress relief. This undermines stress management as alcohol stimulates the secretion of adrenaline leading to nervous tension, irritability and insomnia. Alcohol also impairs the ability of the liver to detoxify the body, while several toxins are produced during stress counteracting stress relief.

Smoke:

Many people turn to cigarettes for stress management which seem to work in the short term but are harmful in the long run. Cigarette smoking is said to be responsible for a variety of cancers.

Salt:

Excess sodium increases the blood pressure, exhausts adrenal glands, and causes emotional instability. Use potassium rather than sodium salt and avoid junk foods which are high in salt. In a study on nutrient intakes and the common mental disorders in women. There is an increasing recognition of the role of nutrition in depression and anxiety. Magnesium, folate and zinc have all been implicated in depressive illness. They demonstrate an association between the dietary intakes of magnesium, folate and zinc and depressive illness (Jacka *et al.*, 2012)

Nutrition has traditionally involved in supplying energy and hydration. The use of omega-3 fatty acids (n-3 FAs) is best to increase the resilience of the brain. The n-3 FAs have numerous proven benefits including support of cardiovascular and psychiatric health. Docosahexaenoic acid in particular, is found in high concentrations in the brain. N-3 FAs provide benefits by exerting a protective mechanism at the cellular and neuronal levels including the modulation of inflammatory cascade following traumatic brain injury. Promising research and evolving clinical experience now indicate that n-3 FA is useful and effective for recovery following traumatic brain injury. The laboratory research shows the beneficial effects

extend to when n-3 FA is given before injury. Given the safety profile, availability, and affordability of n-3 FA, Generally Recognized As Safe amounts of eicosapentaenoic acid and docosahexaenoic acid (up to 3,000 mg daily) should be considered for the athlete and soldier, not only for its general health benefits, but particularly also for those at risk or high exposure to brain impacts (Lewis and Bailes, 2011).

The study was conducted on food consumption frequency and perceived stress and depressive symptoms among students in three European countries by Mikolajczyk *et al.* (2009). Their data shows consistent associations between unhealthy food consumption and depressive symptoms and perceived stress among female students from three European countries, but not among male students. This suggests that efforts to reduce depressive symptoms and stress among female students may also lead to the consumption of healthier foods and/or vice-versa.

Stress management can be powerful tool for wellness. There's evidence that too much pressure is not just a mood killer. People who are under constant stress more vulnerable to everything from colds to high blood pressure and heart disease. Although there are many ways to cope, one strategy is to eat stress-fighting foods.

The timing of meals is also important in prevention of stress. In general, one of the best guidelines to follow is: eat the most before you do the most, and don't eat a lot when you are not going to be doing much (physically) afterward. For example, eating a large amount of food within an hour or so before bedtime (more than 250-300 calories worth of food) is usually problematic, especially if the food is high in protein or fat. The amount of time our body will spend digesting this food is too great and may end up interfering with the quality of your sleep. Similarly, skipping lunch and working out later in the afternoon can be a problem because our body will lack the nutritional support it needs to stay vital throughout the exercise. Timing our meal pattern to match our day's activity pattern can help avoid nutritional stress and some psychological stress as well. Stress also makes us prone to emotional eating, we eat when we aren't hungry, or eat foods that are bad for us.

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