

The Gut-Brain Connection: Feeding Your Brain

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With a population of just over 4 million people, and with approximately 40% of the population under 25 years of age [1], Kuwait is a country that must care for its youth. One of the most stressful experiences for this population group is the commencement of university life and all of the lifestyle adjustments that come with this. Being at University can be a great experience, but also a stressful one. According to the Student Living Report [2] 53% of students reported that their stress levels increased since starting university. Although stress to a certain degree may work as a motivator (eustress), once it becomes overwhelming or beyond your control (distress) it can be damaging to our mental and physical health.

Stress is manifested through both physical and mental symptoms. The former include a racing heartbeat, panic attacks, insomnia, changes in appetite, nausea, headaches and a lower resistance to even mild infections such as colds. The latter include a lack of concentration, absent-mindedness, anxiety and depression. While there are several ways to manage stress and care for our mental health, a strong connection exists between gut health and brain health.

Much attention is being drawn to the gut-brain connection. The theory behind this connection states that a healthy microbiota allows for normal levels of inflammatory cells and mediators. This in turn provides the conditions required for healthy nervous system functions. When the opposite occurs, a condition sometimes refer to as leaky gut, the entire organism is affected, including the nervous system and thus our ability to reach optimal mental health.

Our brain is one of our greatest assets. Every feeling, thought, dream, action-everything depends on our brain. Yet many of us worry that our brain isn't working as well as it used to. Often, we have family members or loved ones whose cognitive abilities seem to be declining. Brain health is a major health concern these days.

And the risk for developing a dementia-related illness lies with just three factors: smoking habits, physical activity and diet quality. So how do we feed our brains?

In terms of diet quality for a healthy brain there are several aspects to work on. This is particularly important at stages of life when we are undergoing severe stress and physical demand, such as is university life for most young people. A brain-friendly eating plan can be summarized in these key concepts: eat gut-health promoting foods, eat more fat and less sugar, eat more real food and less process "stuff".

A healthy gut is populated with a wide range of microbiota. In order to promote a healthy bacteria population, it is important to include foods such as sauerkraut, yogurt, tempeh, kefir and miso. These will allow the maintenance of favourable microbiota and help control the unwanted growth of pathogenic bacteria [3].

A second step to take as part of a brain-friendly eating plan is the increase of fat and a reduction of sugars. Various sources of essential fatty acids improve cognitive function, improved micro and macro circulation, and may reduce the risk of degenerative diseases [4]. As for sugars, we used to believe they were the main source of brain fuel. However, with recent research into the inflammatory effects of

excessive sugar intake, and the insulin-obesity link exploration [5], sugars are being re-evaluated. Nevertheless, today the standard way of eating centres around many forms of the very same thing: sugar. From the refined carbohydrates of junk foods to breads, pastas, fruit and juices, sugar makes up most of what we're eating. When we eat sugar a signal is sent from the tongue to the cerebral cortex that activates a "rewards system". This in turn encourages us to eat more. A huge part of the rewards system is the release of dopamine in our brain, which, when put into overdrive, can be pretty addictive. So, when it comes to sugar, kick the habit.



Figure 1: Brain-friendly eating plan pillars.

Finally, a note on ultra-processed foods. Almost every food that comes with an ingredients list on it is likely to be laden with: extra sugar, extra fat, extra salt, preservatives, flavourings, and artificial colours. It has been suggested that the rapid rise in consumption of ultra-processed food and drink products, especially since the 1980s, is the main dietary cause of the concurrent rapid rise in obesity and related diseases throughout the world [6]. That being said, consider what all of these artificial ingredients are doing to your brain. And what they are replacing! All those valuable nutrient-rich foods that are not being consumed.

Modification of risk factors remains a cornerstone for optimal brain health, with a strong emphasis to be placed on eating habits and dietary patterns. Among the youth population, it is paramount for health professionals to promote and encourage favourable habits that will dictate health conditions to be developed later in life.

Bibliography

1. "Kuwait Demographics Profile". *Index Mundi* (2016).
2. "Student experience research to gain insight into the quality of the learning experience". *Student Living Report* (2012).
3. Richards JL, *et al.* "Dietary metabolites and the gut microbiota: an alternative approach to control inflammatory and autoimmune diseases". *Clinical and Translational Immunology* 5.5 (2016): e82.
4. Jackson PA, *et al.* "Promoting brain health through exercise and diet in older adults: a physiological perspective". *The Journal of Physiology* 594.16 (2016): 4485-4498.
5. Dandona P, *et al.* "Inflammation: the link between insulin resistance, obesity and diabetes". *Trends in Immunology* 25.1 (2004): 4-7.
6. Monteiro C. "The big issue is ultra-processing. [Commentary]". *World Nutrition* 1.6 (2010): 237-269.

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