

# The links between stress, digestion and nutrition

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Stress, as an appropriate response to a real danger, is an evolutionary life-saver. Thanks to the fight-flight responses in our ancestors' bodies, we, the descendants have made it through to the 21st Century. It's ironic that in this modern age with extraordinary technologies devoted to eliminating hazards and increasing our ease in life, our stress is off the charts. We've become aware that our bodies, almost perpetually flooded with the stress hormones, adrenalin and cortisol, are now at risk from their own, age-old, protective ingenuity.



Our bodies are well-designed to cope with short bursts of life-saving stress, but it is sustained stress, resulting from a barrage of perceived threats, that takes its toll. Flowing adrenalin and cortisol from our activated endocrine system ignite both visceral and cerebral reactions; and they do so by drawing the body's energy away from other systems, such as our digestion and immunity.

Registered dietitian and spokesperson for ADSA (Association for Dietetics in South Africa), Maryke Gallagher explains that it is our autonomic nervous system (ANS), comprising of sympathetic, parasympathetic and enteric nervous systems, that controls our involuntary responses. "Stress hormones switch on the sympathetic nervous system to increase your heartbeat and send blood to the areas to cope with the emergency," she explains. "In the process, the effects of the parasympathetic system in charge of other functions, such as digestion, are dampened. This can lead to unwanted digestive symptoms such as constipation, diarrhoea, nausea, stomach cramps, malabsorption and irritable bowel symptoms. Stress may also exasperated symptoms of heartburn and acid reflux in susceptible individuals and those suffering from stomach ulcers."

## How stress can undermine our nutrition

Apart from raising the risks of digestive ailments, chronic stress can influence how and what we eat, to the detriment of our healthy eating plans. Gallagher says, "Research has shown that in susceptible individuals chronic stress can lead to overeating especially highly palatable, less nutritious foods that are high in highly processed carbohydrates, sugar, salt and unhealthy fats. High cortisol levels, in combination with high insulin levels, may be responsible. The hormone ghrelin that regulates hunger, may also play a role. The happy hormone serotonin may have an impact as the consumption of carbohydrate-rich foods may trigger its release, which can have a momentary calming effect on stressed individuals. Unfortunately, the consumption of these foods can have a negative effect on blood sugar levels, causing spikes and drops in blood sugar that then make one feel agitated, fatigued and hungry and grabbing for the same sugary, highly-processed foods that initiated this process, leading to a vicious circle of poorer dietary choices."

## The impact of stress on our weight

Sustained stress might well impact on our weight management. While some individuals may lose weight because of their stressed state, those who are inclined towards emotional eating can go the opposite way. Mpho Tshukudu, also a Registered Dietitian and ADSA spokesperson says, “Adrenalin can trigger overeating or eating unhealthy foods to calm the response after the body has used up glucose for the stressful situation. One may eat mindlessly whilst thinking about the problem at hand and not even focus on the taste of foods, portions and your satiety level. Elevated cortisol creates physiological changes that help to replenish the body's energy stores that are used and depleted during the stress response. It makes you want to eat more to obtain more energy. This leads to increased appetite and cravings for sweet and fatty foods, which can lead to fat gain particularly around the belly.”

## Nutrition's role in stress management

Just like physical activity and mindfulness, nutrition has an important role to play in managing our stress and caring for ourselves well during a difficult time. Keeping your healthy eating regime on track, or changing to one during times of prolonged stress can have positive physical and emotional impacts. The experts recommend:

- Eat regular meals to avoid blood glucose dips, which helps to keep hunger and hormones such as insulin in check. Skipping meals on the other hand can exacerbate symptoms of stress and erode your stress response.
- Focus on a diet rich in plant-based, high fibre foods such as vegetables, fruit, legumes, nuts and whole grains, as well as lean proteins and healthy fats. This will assist in better blood sugar regulation to better manage the short term effects of stress, while protecting the body against chronic disease in the long run.
- Avoid highly-processed carbohydrate rich and sugary foods.
- Be careful of regularly eating treat foods, such as chocolate in order to make you ‘feel better’. Likewise be aware of not increasing your intake of caffeine or alcohol during stressful times.
- Consider including fermented foods in your diet, or taking a probiotic supplement to keep your gut microbiome healthy. Research has shown that stress affects the amount and type of healthy bacteria in the gut, which in turn can affect our immunity that may be suppressed due to stress. Tshukudu points out: “There is a complex two way connection between the digestive system and the brain, called the brain-gut axis. A troubled intestine can send signals to the brain, just as a stressed brain can send signals to the gut. This system is sensitive to our emotional state and affects digestive illnesses such as irritable bowel syndrome, indigestion and heartburn. It also affects the whole body function.”

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