NATURAL MODULATION GUT MICROBIOTA IN PSYCHOLOGICAL STRESS: IMPACT OF DENIPLANT NUTRACEUTICALS

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Stress, a ubiquitous part of daily human life, has varied biological effects which are increasingly recognized as including modulation of commensal microorganisms residing in the gastrointestinal tract, the gut microbiota.

Stress can be defined as a disruption in homeostasis due to environmental, physical, or psychological stimuli (i.e., stressors).

These stressors are psychological (e.g., fear, anxiety, cognitive demands), environmental (e.g., climatic extremes, high altitude, noise, pathogens, toxicants, and pollutants), and physical (e.g., strenuous exercise and high energy expenditure, undernutrition, sleep deprivation).

The gut microbiota could be an underappreciated mediator of stress responses and associated sequelae

The brain and the gut have a lively ongoing dialog through the gut-brain axis.

In turn, the gut microbiota influences the host stress response and associated sequelae, thereby implicating the gut microbiota as an important mediator of host health.

Stress can affect health through its impact on gut bacteria, dysbiosis has been associated with psychological disorders.

It is increasingly recognized that stress modulates gut microbiota community structure and activity, and may be one causal factor in dysbiosis.

Clinical investigation of the role of macronutrient intake in stress reactivity remains largely inconclusive.

This review focuses on human studies to address the bidirectional links among diet, stress, and the gut bacteria, and their impact on immune function and health.

This narrative review aims to summarize evidence concerning the impact of psychological stress on gut microbiota composition and function.

In this study, we explored the association of defective intestinal and blood-brain barriers with altered fecal microbiota under psychological stress, to improve our understanding of the gut-brain axis.

The goal of this review is to examine how diet and stress reciprocally interact with the gut microbiota and inflammation, how the gut microbiota can be manipulated is a promising therapeutic strategy, for example by using Deniplant anti-stress tea.

The stressors reviewed include psychological stress, circadian disruption, sleep deprivation, environmental extremes (high altitude, heat, and cold), environmental pathogens, toxicants, pollutants, and noise, physical activity, and diet (nutrient composition and food restriction).

Stressors were selected for their direct relevance to a population that is commonly exposed to these stressors, often at extremes, and in combination.

However, the selected stressors are also common, alone or in combination.

Previous research have proved that the brain and intestine can communicate with each other through the vagus nerve, and neuroendocrine, immune, and metabolic pathways.

We hypothesize that defections of the intestinal barrier and blood-brain barrier at multiple sites are essential links in brain-gut communication under psychological stress.

Stress can affect health through its impact on gut bacteria. Stress and depression can increase gut barrier permeability.

We found that real psychological stress alone had significant effects on the composition and diversity of gut microbiota.

The association of gut microbiota with psychological stress remains to be fully interpreted.

In the presence of psychological stress, neurotransmitters, cytokines, and other components produced during bacterial translocation can affect the body's mood by activating the nervous system or directly acting on the brain.

The intestinal barrier and blood-brain barrier are key pathways of substance transfer between the intestine and brain, with the tight junction between intestinal mucosal epithelial cells and vascular endothelial cells playing a significant role.

The brain and the gut have a lively ongoing dialog through the gut-brain axis.

Changes in urinary concentrations of several metabolites potentially derived from the gut microbiota were also observed, and were associated with gastrointestinal symptomatology and gastrointestinal permeability.

The mechanism of stress affecting intestinal microbial composition is unclear, but has been reported to be caused by changes in intestinal motility and mucin secretion leading to alterations in the internal environment in which microorganisms live.

The occurrence and development of psychological diseases can be blocked or treated by changing the permeability of the blood-brain barrier and intestinal barrier.

Repeated exposure to social stress can alter the diversity and composition of gut microbiota, accompanied by changes in microbial metabolites, cytokines, chemokines, and monoamine transmitters, which regulate behavior by stimulating the peripheral and central nervous systems.

For instance, when these two essential barriers are damaged, short-chain fatty acids, lipopolysaccharide, and IL-6 can pass through the intestinal epithelium and increase their circulatory concentrations.

Subsequently, these products are transported through the defective blood-brain barrier and enter into the brain through a saturated transport mechanism, giving rise to abnormal emotions

These findings explain the association and essential role of psychological stress-induced changes in gut microbiota with increased intestinal barrier and blood-brain barrier permeability in the bidirectional interaction between gut microbiota and psychological stress, which indicate the occurrence and development of psychological diseases.

There is compelling evidence for bidirectional interaction between stress and the microbiome.

The specific communication mechanisms, however, remain to be studied.

The effects of psychological stress on gut microbiota should be further studied to elaborate their differences.

Anti-stress tea is a natural immunomodulator of the intestinal microbiota.

Removing dysbiosis from the intestinal microbiota can prevent and eliminate complications caused by stress.

It contains cultivated medicinal plants and spontaneous flora, fruit tree buds.

Deniplant anti-stress tea

Conclusion

Our study provides new evidence that stress can induce gut microbiota disorders.

Altered gut microbiota has been identified during psychological stress.

This study provides new directions for investigating the pathogenesis of emotional disorders and the formulation of clinical treatment.

We could conclude the significant role that the defective intestinal and blood-brain barriers plays in the communication between gut and brain.

We used Deniplant anti-stress tea for the prevention and treatment of psychological disorders.

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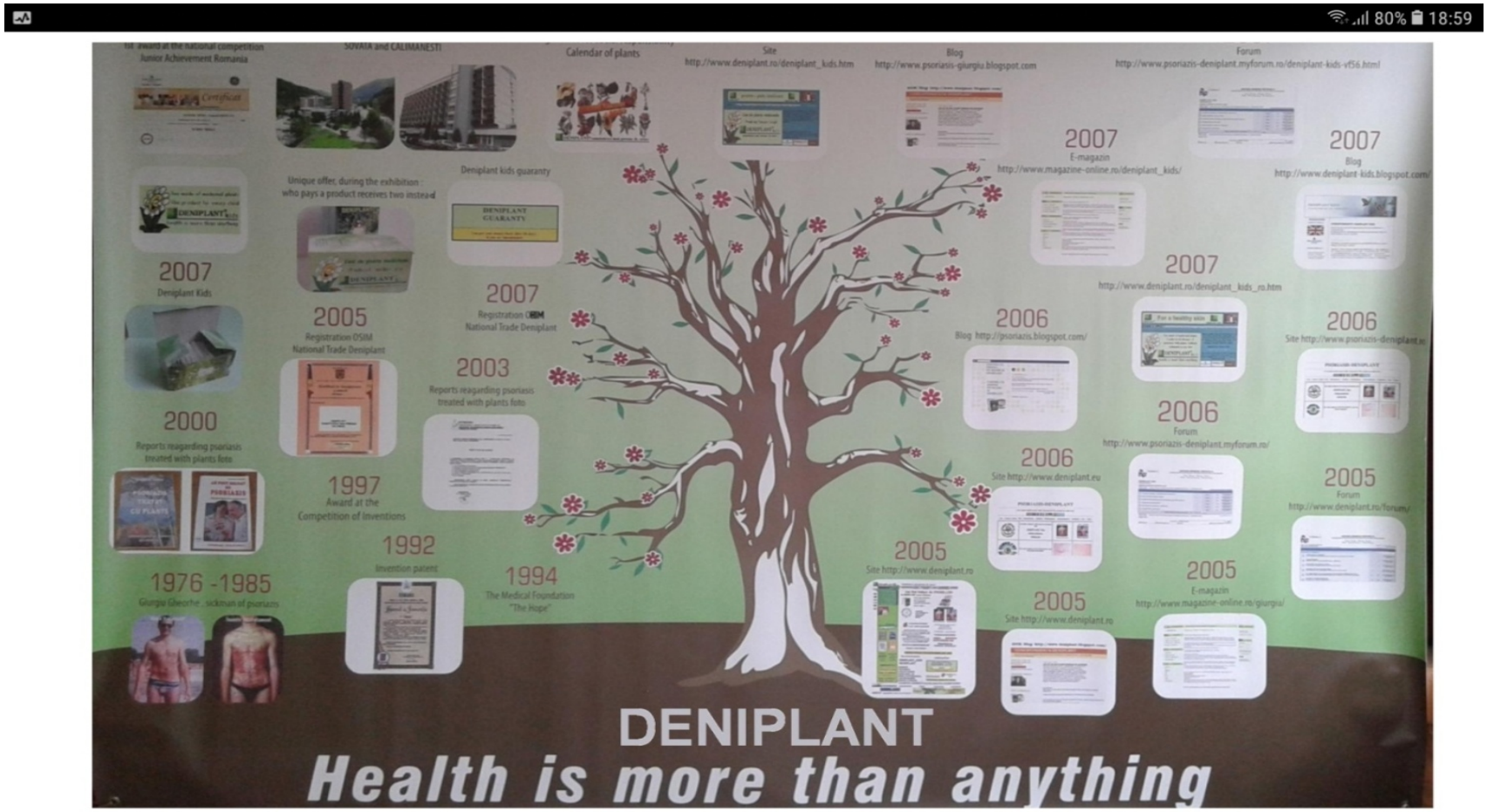

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