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A digital health transformation with a humanistic approach by connecting artificial intelligence technology with human health metrics

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Human intestine consists of trillions of microbiota diversity with the function of nutrient absorption, immune system regulations, and host protection (from pathogenic microbes). Due to the individual's different lifestyle, ethnicity, and genetic background; the immune, mental, and gut microbiota functions differently. Example, Tanzania hunters diet mostly involves high protein and western populations diet is high carbohydrate suggests the clear difference in human body functionality. In addition, rural populations high protein diet, nature connection for pure oxygen, less exposure to pollution and less stressed people's microbiota functions differently than urban population.

Human genome and diet have been changed over the years, there could be an incompatibility between human genome and microbiota. In addition, low diversity of microbiota strongly associated with increased cholesterol, inflammation, triglycerides, fatty acids, white blood cells, insulin resistance, and decreased HDL-cholesterol. Elevations in glucocorticoids (GCs) appear to reduce gut microbiome diversity in experimental studies, suggesting that a loss of microbial diversity may be a negative consequence of increased GCs. However, given that ecological factors like food availability and population density may independently influence both GCs and microbial diversity, understanding how these factors structure the GC-microbiome relationship is crucial to interpreting its significance in wild populations (1).

Melatonin originally defined as a neurohormone secreted by the pineal gland, is synthesized in the retina, platelets, skin, lymphocytes, uterus, and importantly, the gut, in which the amount of melatonin is approximately 400 times greater than that in the pineal gland (2).

The homeostasis of the gut-brain axis has been shown to exert several effects on physiological and psychological health. The gut hormones released by enteroendocrine cells scattered throughout the gastrointestinal tract are important signalling molecules within the gut-brain axis. The interaction between gut microbiota and gut hormones has been greatly appreciated in gut-brain crosstalk. The microbiota plays an essential role in modulating many gut-brain axis-related diseases, ranging from gastrointestinal disorders to psychiatric diseases. Similarly, gut hormones also play pleiotropic and important roles in maintaining health, and are key signals involved in gut-brain axis. More importantly, gut microbiota can affect the release and functions of gut hormones (3).

Recent Publications

1. Identification of a Novel Serological Marker in Seronegative Rheumatoid Arthritis Using the Peptide Library Approach DOI:10.3389/fimmu.2021.753400

2. Pathogenesis of immune thrombocytopenia in common variable immunodeficiency DOI:10.1016/j.autrev.2020.102616.

Speaker Biography

He is a pharmacist with an undergraduate degree from India. Biotechnologist with a master's degree from Italy, and immunology and endocrinologist with a Ph.D. from Italy. He has also a year of postdoctoral research experience in Sweden. In addition, he recently completes his MBA graduate from the UK.

With a passion in science and technology, He has started Akeno Health to help pre-diabetes and diabetes type-2 patients to reverse their diabetes and type-1 diabetes patients manage diabetes effectively. He acts as a consultant to several healthcare companies and recently joined as a chief medical officer of Celestial Research Institute (CRI) and a telehealth company. He has over 10 years of experience in science and technology and over 2 years of experience in business development, marketing, strategy, and healthcare entrepreneurship.

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