

## HUMAN MICROBIOME-THE HIDDEN WORLD

The human microbiome refers to the assembly of microbes that live in the human body. These inhabit various parts of our body including the skin and mouth. Most of them reside in the gut and digestive tract and collectively outnumber human cells by 10 to 1, making up to 5 pounds of our body weight.

### EFFECT OF MICROBIOME ON VARIOUS DISEASES

Almost every scientific study performed correlates microbiome with a specific trait or disease of the human body, including but not limited to: obesity, malnutrition, heart disease, diabetes, celiac disease, eczema, asthma, multiple sclerosis, colitis cancers and even autism.

### IMPACT ON IMMUNE SYSTEM

Microbiome plays an important role in the formation of a strong immune system, especially during early childhood. Microbiome has been linked to improved effectiveness of the immune system leading to potential benefits seen in arthritis.

### IMPACT ON NUTRITION

Research has revealed the positive impact of gut microbiome on nutrition. These are responsible for breaking down many of the complex molecules found in foods, such as meat and vegetables. These bacteria not only harvest energy for themselves from the plants we eat, but also break down the plants into smaller molecules for easy digestion.

### IMPACT ON HUMAN BEHAVIOUR

Recent findings are beginning to unveil the most interesting influence microbiome has on its host behaviour. There are many nerve endings that are located around the gut, which transmits signals directly to the brain. It is believed that molecules released from bacteria can affect everything from mouth taste to mood of the host.

### WHAT CAN CLINICIANS DO

As new proven benefits of microbiome become evident, health care providers can take the following simple steps to improve microbiome of their patients:

- Advise simple diets.
- Prescribe natural sugar sources, fibre rich fruits and vegetables in place of processed sugar, artificial sweeteners, color and flavourings.
- Guide on improving sleep patterns.
- Resist frequent use of antibiotics where ever possible.
- Suggest lifestyle modifications by adding physical activities.
- Counsel patients to live close to nature as much as possible.



References:

<http://www.medscape.com/features/slideshow/rise-of-microbiome>  
<http://www.microbiomeinstitute.org/humanmicrobiome/>