

## Exploring the Correlation between Body Constitution of an Individual as Per Ayurveda and Gut Microbiome in Healthy, Multi Ethnic Urban Population in Bangalore, India

**Authors :** Shalini TV, Gangadharan GG, Sriranjini S Jaideep, ASN Seshasayee, Awadhesh Pandit

**Abstract :** Introduction: Prakriti (body-mind constitution of an individual) is a conventional, customized and unique understanding of which is essential for the personalized medicine described in Ayurveda, Indian System of Medicine. Based on the Doshas( functional, bio humoral unit in the body), individuals are categorized into three major Prakriti- Vata, Pitta, and Kapha. The human gut microbiome hosts plenty of highly diverse and metabolically active microorganisms, mainly dominated by the bacteria, which are known to influence the physiology of an individual. Few researches have shown the correlation between the Prakriti and the biochemical parameters. In this study, an attempt was made to explore any correlation between the Prakriti (phenotype of an individual) with the Genetic makeup of the gut microbiome in healthy individuals. Materials and methods: 270 multi-ethnic, healthy volunteers of both sex with the age group between 18 to 40 years, with no history of antibiotics in the last 6 months were recruited into three groups of Vata, Pitta, and Kapha. The Prakriti of the individual was determined using Ayusoft, a software designed by CDAC, Pune, India. The volunteers were subjected to initial screening for the assessment of their height, weight, Body Mass Index, Vital signs and Blood investigations to ensure they are healthy. The stool and saliva samples of the recruited volunteers were collected as per the standard operating procedure developed, and the bacterial DNA was isolated using Qiagen kits. The extracted DNA was subjected to 16s rRNA sequencing using the Illumina kits. The sequencing libraries are targeting the variable V3 and V4 regions of the 16s rRNA gene. Paired sequencing was done on the MiSeq system and data were analyzed using the CLC Genomics workbench 11. Results: The 16s rRNA sequencing of the V3 and V4 regions showed a diverse pattern in both the oral and stool microbial DNA. The study did not reveal any specific pattern of bacterial flora amongst the Prakriti. All the p-values were more than the effective alpha values for all OTUs in both the buccal cavity and stool samples. Therefore, there was no observed significant enrichment of an OTU in the patient samples from either the buccal cavity or stool samples. Conclusion: In healthy volunteers of multi-ethnicity, due to the influence of the various factors, the correlation between the Prakriti and the gut microbiome was not seen.

**Keywords :** gut microbiome, ayurveda Prakriti, sequencing, multi-ethnic urban population

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