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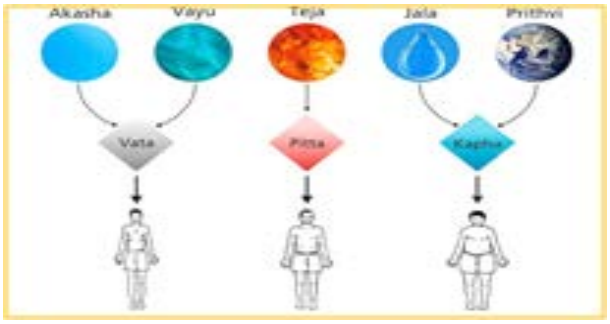
Ayugenomics: Traditional medicine to modern pharmacogenomics

Kalpana Joshi
Sinhgad College of Engineering Affiliated to Savitribai Phule Pune University, INDIA

Ayurveda is one of the most ancient and yet living traditions documented and practiced widely in India. It has strong philosophical, experiential and logical foundation that addresses health holistically. The concept of Prakriti or constitution has central role in understanding health and disease in Ayurveda. Prakriti of a person is taken into account for prescribing medicines or diet or lifestyle in Ayurveda.

Research in Ayurveda has been dominated by studies on medicinal plants and the development of herbal drugs; however, basic research which employs modern biology, immunology, and chemistry to investigate the fundamental concepts in Ayurveda such as Prakriti, panchakarma procedures, rasayanas has received little attention.

Our study for the first time established molecular basis for classification of individuals based on Tri-doshas or constitutional types1, 2, 3. The findings suggested that prakriti has a genetic basis and the prakriti-based therapy is consistent with personalized medicine. We also demonstrated differential DNA methylation signatures in three distinct prakriti phenotypes revealing the epigenetic basis of dosha prakriti 4. These observations are likely to have significant impact on phenotype – genotype correlation, drug discovery, pharmacogenomics and personalized medicine. We also explored prakriti variation in treating asthma Ayurvedic way and found that the therapy works at the root cause of disease5. Rasayana in rejuvenation is another concept which was studied using stem cells6. It remains important to believe, respect, support traditions and also explore them using tools and techniques of modern science.



Prakriti (Constitution) of Ayurveda and five elements

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kalpanajoshi1788@gmail.com