

From Illness to Wellness through Nutritional Science

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Wellness is the trending mantra of the 21st century. Most people have realized that 'wellness' is one of the key determinants behind the quality of life, happiness and achieving success. This trend is primarily due to increased life-expectancy, thanks to the development of biotechnology research that is successfully working towards developing nutritional solutions and revolutionizing the food and beverage industry.

The resultant increased lifespan and modern lifestyle has brought with it a greater focus on non-communicable chronic disorders (NCD) that affect the 'health-span' of an individual. The focus has thus shifted from treatment for illness to a positive approach for prevention of diseases and the quest of 'living longer' has changed to 'living longer and healthier.' This also has an impact on individual economy, productivity and economy of the society at large.

More and more people these days are becoming conscious about their health and want to avoid taking trips to the doctors. It is at the level of prevention that most bioengineering efforts should be directed, because prevention is better than cure. Consumers are increasingly on the lookout for healthy products that keeps them away from any health disorder and contributes to improving their life on a long-term basis to maintain a happier and healthier life.

The growing middle class in India, which now has more discretionary income at their disposal, is willing to spend on wellness and preventive healthcare as opposed to the earlier focus on treatment of illnesses. WHO reported that during the period 2007-2015, 17.3% of the population spent more than 10% of total household expenditure on healthcare.

The millennials today are keen to initiate changes

and make choices that can help them play a more active role in optimizing their "daily wellness quotient." This proactive trend is mirrored in the double-digit growth of the health and wellness product market. This leads to a paradigm shift in the healthcare sector from illness management to prevention and wellness assurance.

Modern day science has validated the ancient wisdom of using "food as medicine," and the correlation of gut health/ gut microbiome with health and wellness has been conclusively proven by modern science across globe⁽¹⁻³⁾. Globally, the concept of nurturing and fostering wellness through 'nutraceuticals' is on the rise. The meaning of 'nutraceutical' is hidden in the word itself, it's a nutrient or a dietary substance that confers health benefits that go beyond basic nutrition.

The human gut microbiome, or gut environment, is a community of different bacteria that has co-evolved with humans and constitutes various types of good and bad bacteria beneficial as well as harmful to an individual respectively. Researchers demonstrated that a person's unique microbiome is created within the first 1,000 days of life, but there are things you can do to alter your gut environment throughout your life by altering food, lifestyle management and medicine consumption.

What we eat, especially processed foods that contain chemical additives and ultra-processed foods, affects our gut environment and increases our risk towards diseases. These also include high sugar, high salt, preservative which are necessary in today's modern ultrafast lifestyle. Though they are safe to eat/drink but some of them have long term effect on metabolic health like diabetes, obesity, cardiovascular diseases and so on⁴. Ultra-processed foods contain substances extracted from food (such as sugar and starch), added

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from food constituents (hydrogenated fats), or made in a laboratory (flavor enhancers, food colorings). It's important to know that ultra-processed foods such as fast foods are manufactured to be extra tasty by the use of such ingredients or additives, and are cost effective to the consumer.

Researchers recommend "fixing the food first" (in other words, what we eat) before trying gut modifying-therapies (probiotics, prebiotics) to improve how we feel. They suggest eating whole foods and avoiding processed and ultra-processed foods that we know cause inflammation and non-communicable diseases. Apart from healthy diet consisting of fruits and vegetables, prebiotics and probiotics represent the most commonly used ingredients consumed to sustain a healthy microbiome or restore balance when it is believed bacterial homeostasis has been disturbed in disease. While a considerable volume of basic science at-tests to the ability of various prebiotic molecules and probiotic strains to beneficially influence host immune responses, metabolic processes and neuro-endocrine pathways, the evidence base from human studies leaves much to be desired.

It has now been observed that the food & beverage industry is making huge investments in research and development to study the consumer mind-set, cater to their needs and also follow regulatory instructions to develop and serve innovative products that provides nutrition without compromising on taste.

Health concerns can adversely affect the prosperity of a country if timely action is not taken, and thus the need for preventive health measures. A healthy society reflects the well-being of a nation and the quality of human capital is an important contributor to economic growth. The government has taken cognizance of this fact and launched the Ayushman Bharat Yojana, a path to Universal Health Coverage (UHC). UHC means that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these servic-

es does not expose the user to financial hardship. It is a vital step since India is an emerging economy and possesses a growing population, rising medical cost inflation, and increased diagnosis of health conditions.

As scientific research advances, there is greater understanding of the physiological and biochemical pathways and how these are affected by nutraceuticals. For example, the plethora of opportunities to support metabolic health, heart health, brain health etc. that is emerging from the research on the gut microbiome is just the tip of the iceberg to indicate what is in store ahead.

There is a remarkable attitude shift driving Indian consumers towards preventive health measures and resorting to healthier lifestyle choices by improving gut health. The nutraceutical market which forms an integral part of preventive healthcare is showing an incredible upsurge. More and more players have unearthed the tremendous potential and are exploring new opportunities in this exciting market with its growing consumer base and rising demand. With India set to become the most populated country in the world, there is no doubt that the sky is the limit for the nutritional solutions sector.

References

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