Title: The Interplay of Nurtigenomics and Cancer Research

Sabba Mehmood*

Nutrition is a significant modifiable cancer risk factor. Proper diet modifications can play a major role in lowering the incidence of some cancers. There is growing epidemiological evidence linking certain food exposures to specific cancers. The prevention of cancer has been associated with certain vitamins and trace minerals. This is because these trace elements participate in several pathways that control cancer, carrying out roles and duties. Micronutrient-dense diets, such as those high in vitamin D, selenium, and B-12, help in preventing cancer. It is well-established that dietary changes greatly lower the risk of illnesses. It is well known that a diet high in fruits and vegetables protects against the emergence and progress of cancer and the positive effects are usually thought to be caused, at least in part, by polyphenols and other dietary supplements. More information is nevertheless required to evaluate the efficacy of vitamins and minerals and determine whether they are only appropriate for particular forms of cancer. Furthermore, new research findings indicate that dietary changes may play a role in the innovative treatment of cancer and cancer-related illnesses.

The data from epidemiological, preclinical, and clinical research have made a significant contribution to the knowledge connecting diet and cancer prevention. Cancer research is challenging, and it is never easy to determine the true impact of just one of these factors because several lifestyle factors also have an impact on the risk of cancer. Through dietary changes and improved chemotherapy, the applications of nutrigenomics may offer a promising strategy for cancer prevention or risk reduction.

Nutrigenomics is a field of study that investigates the impact of dietary chemicals on an individual's genetic composition, encompassing the genome, proteome, and metabolome. The field of nutrigenomics utilizes high-throughput genomic technologies to investigate the impact of nutrition on gene expression. The integration of nutrigenomics with systems biology yields a precision nutrition approach that offers personalized dietary recommendations, hence enhancing the efficacy of disease recovery.