

Warding off cancer, diabetes and other non-communicable diseases requires lifestyle changes and innovation

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Prof Rimantas Kodzius. Credit: Kaunas University of Technology, Lithuania

The key factor in preventing non-communicable diseases is lifestyle management at the individual level with a focus on such innovations,

which can help increase the awareness of risk factors management in society, claim an international team of researchers, among them—scientists from Kaunas University of Technology (KTU), Lithuania in a recent study. According to them, the management of cancer, diabetes, cardiovascular and respiratory diseases requires many strategies from several perspectives and on different levels.

Non-communicable diseases (NCDs), also known as chronic diseases, are medical conditions that are associated with long duration and slow progress. Most NCDs are non-infectious and are the result of several factors, including genetic, physiological, behavioral, and environmental. According to the World Health Organization, NCDs are the leading cause of death worldwide, responsible for 71% of the total number of deaths each year. The top four killers among NCDs are cardiovascular diseases (17.9 million deaths annually), cancers (9 million), [respiratory diseases](#) (3.9 million), and diabetes (1.6 million).

Although lifestyle factors, such as [physical activity](#), nutrition habits, tobacco and alcohol consumption have been linked to the development of certain [medical conditions](#) for a long time, with this study the researchers attempt to draw the attention of policy-makers and medical professionals towards the complex nature of the problem and its possible solutions.

"It is important to combine modern scientific achievements and innovative decisions, concerning the rationality of nutrition and positive effects on human health. Governments and international organizations should make people aware of their health and their environment to make the world a safe and healthy place," states Dr. Rimantas Kodzius, Head of the research group behind the study, Professor at Panevezys Faculty of Technology and Business, Kaunas Technology University (KTU).

According to him, the support of research to find new techniques to

improve food biotechnology or to develop rapid and sensitive diagnostic platforms to detect NCDs is crucial. The scientists claim that in order to successfully address the growing crisis of non-[communicable diseases](#), the innovation, focusing on the promotion of healthy eating behavior, lifestyle change and cessation of smoking is crucial. The management of NCD's requires many strategies from several perspectives on individual and country levels.

According to various data, there are modifiable (i.e. [high blood pressure](#), smoking, physical inactivity, obesity) and non-modifiable (such as age, gender, [genetic factors](#)) [risk factors](#) that contribute to the development of NCD's. However, although one cannot change their age or gender, there are modifying factors in the cultural or social environment of every person. Therefore, risk factor management is essential in preventing NCDs," researchers claim.

"In the past, infectious and parasitic diseases were the main causes of death, but in recent decades, NCDs have replaced them. Moreover, with the spreading of western lifestyle in low and middle-income countries, due to global population aging and commercial pressures for unhealthy diets, non-commutable diseases are becoming prevalent across all economic contexts," says Dr. Aida Budreviciute, the first author of the study.

According to researchers, the main factors of illnesses are medications, blood pressure, lipids, glucose, viruses, obesity, stress. Various dietary factors, such as eating meat, sugar-sweetened beverage consumption, and iron-based diets or, on the other hand, using whole grain, natural, high-fiber products have been linked to the development of NCD's.

Moreover, researchers claim that the effects of the global COVID-19 pandemic on the development of NCD's can be devastating as people during lockdown and self-isolation tend to eat more and exercise less. In

the future, when the battle with COVID-19 is won, the health system may be overwhelmed with the many occurrences of NCDs, say the team of researchers.

More information: Aida Budreviciute et al. Management and Prevention Strategies for Non-communicable Diseases (NCDs) and Their Risk Factors, *Frontiers in Public Health* (2020). [DOI: 10.3389/fpubh.2020.574111](https://doi.org/10.3389/fpubh.2020.574111)

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