

## Food sustainability and nutrition during economic crisis

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Risk factors for non-communicable diseases are unhealthy dietary pattern, lack of exercise, heavy alcoholism, smoking, hypertension, diabetes, overweight and obesity, mental stress and some drugs. Most prominent non-communicable diseases (NCDs) are kidney disease, strokes, cancers and cardiovascular disease. Diet-related NCDs includes cardiovascular disease such as heart attacks, diabetes, high blood pressure and cholesterol. Unhealthy diets and poor nutrition are among the top risk factors for these diseases globally. Cardiovascular diseases are a group of disorders of the heart and blood vessels. Main factors that affect the cardiovascular diseases are age, gender and genetics. Coronary heart disease and cerebrovascular disease are the two most common conditions.

Major risk factors of cancers are harmful rays, genetic problems, mobile phones, smoking and heavy alcoholism, poisonous chemical compounds, mental stress and high consumption of red meat. NCDs has made a harmful impact on our life due to the wrong life style. It's important to identify the disease cause, regular medical checkups for weight, blood pressure, blood sugar level and cholesterol level, basic tests for cancers, self-tests as well as prevent the risk factors of NCDs to maintain our health.

A healthy lifestyle will result from waking up early and engaging in daily exercise for 30 minutes at least five days a week. It's essential to drink at least three liters of water per day in order to prevent dehydration, kidney damage and to reduce tissue injuries during sports. The majority of chemical processes that take place inside the body use water as their primary medium. It's important to have a well-balanced diet with high protein and less carbohydrates at a preplanned time frame which is appropriate to the body. Apart from that it is preferred to give a resting period for the stomach between 8pm to 4 am. Energy saving can be promoted as well by reducing the regular cooking.

Required energy or daily calorie take for a medium

sized body frame with an approximate weight of 70 kg and a height of 1.65 m is defined as 2100 kcal. All the nutrients, including carbohydrates, proteins, lipids, vitamins, minerals, non-nutritive compounds such as phytochemicals and high-fiber foods like fruits, vegetables, nuts, whole grains (*e.g.*, unprocessed maize, millet, oats, wheat and brown rice), and legumes (*e.g.*, lentils and beans), should be present in the diet composition of an adult, with the intake of sugar and salt kept to a minimum. The intake of fruits and vegetables should be nearly 400 g per day excluding potatoes, sweet potatoes, cassava and other starchy roots. Salt should be iodized and amount of consumption should be less than 5 g per day. The diet should include less than 10% of total energy intake from free sugars which is equivalent to 50 g for a person of healthy body weight consuming about 2000 calories per day. It is suggested that the intake of saturated fats be reduced to less than 10% of total energy intake and trans-fats to less than 1% of total energy intake. In particularly, industrially-produced trans-fats are not part of a healthy diet and should be avoided. For a normal, healthy person the energy of the macro nutrient in a diet should be compromised as 45%-60% of carbohydrates, 10%-25% of protein and 10%-30% of fat/oil. Lauric acid contain in the virgin coconut oil is really good for the kidney patients.

Fast foods are having excessive oil, salt, sugar and artificial flavor that is harmful for the body conditions. It also possesses a high calorie density, empty calories, and a low nutrient density.

The serving size of cooked long-grain white rice is half of a cup (79 g) and same amount goes with vegetable curry and green leafy salad. A weight of 50 g of fish/meat would be sufficient for a meal. Different types involved in cooking are coconut oil, palm oil, olive oil and soya oil.

Coconut oil can be produced using copra. The quality of the coconut oil can be dropped under below circumstances. When the copra produced

through smoking there can be harmful gases such as hydrocarbons causing the destruction of nutritive value of natural coconut oil. Contamination of animal dung can happen when the copra stored in dirty places like breeding places of rats and insects. The low-quality coconut oil produced when copra stored in a one place for a long period of time with poor dehydration as well as fungus contamination namely aflatoxin. Oxidation of fatty acids in copra can occur when storing unclean copra for so long. Excessive exposure of copra to heat can cause the health beneficial fatty acids of lauric acid in the coconut oil to get oxidized reducing the quality of coconut oil. Thus, in production of physically refined coconut oil copra should be heated up to 180 °C to protect lauric acid (boiling point of lauric acid > 180 °C). All the harmful compounds like peroxides, free fatty acids and impurities should be removed and should confirm that no free radicals or carcinogenic compounds have been produced.

Health benefits of tea can be listed as anti-carcinogenic effect, controlling blood cholesterol level, boosting the immunity, controlling the blood sugar level, boosting the activity of insulin hormone and controlling the weight gain. It says that three cup of tea per day help to reduce the risk of cardiovascular

diseases. When having meals, it's recommended to have snacks in between breakfast, lunch and dinner.

Consumption of alcohol and cigarettes cause fatal diseases like cancers and cirrhosis. Alcohol is a psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries. The harmful use of alcohol causes a high burden of disease and has significant social and economical consequences. Drinking alcohol is associated with a risk of developing health issues such as mental and behavioral disorders, including alcohol dependence and major noncommunicable diseases such as liver cirrhosis, some cancers and cardiovascular diseases. A significant proportion of the disease burden attribute to alcohol consumption arises from intentional and unintentional road traffic crashes, violence and suicide causing difficulties to family, co-workers and strangers. Worldwide, three million of deaths result from harmful alcohol annually representing 5.3% of all deaths. Fatal alcohol-related injuries tend to occur in relatively younger age group. Smoking can cause lung cancers if the health limit was exceeded. More than 7 million of deaths are the result of direct tobacco use while around 1.2 million of deaths are the result of non-smokers being exposed to second-hand smoking.

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## XVIII<sup>th</sup> Convocation of the College of Chemical Sciences Institute of Chemistry Ceylon

The 18<sup>th</sup> Convocation of the College of Chemical Sciences, Institute of Chemistry Ceylon was held on the 19<sup>th</sup> of September 2022 at the Bandaranaike Memorial International Conference Hall (BMICH). Mr. M. Nihal Ranasinghe, Secretary of the Ministry of Education graced the occasion as the Chief Guest. This event marked the graduation of the first batch of BSc (Hons) in Chemical Science graduates which comprised of 41 graduates, 86 graduates from the Graduateship in Chemistry (GIC) program, 51 Diplomates from the Diploma in Laboratory Technology in Chemistry (DLTC) and two diplomates from Diploma in Chemistry.

The convocation ceremony was declared open by Mr. N. M. S. Hettigedara, the president of the Institute of Chemistry Ceylon. Two minutes of silence was then observed in par with the demise of Her Majesty

Queen Elizabeth II. It was followed by the distribution of certificates and medals for the GIC and BSc (Hons) graduates and DLTC diplomates. The chief guest Mr. Nihal Ranasinghe then addressed the gathering and highlighted the significant role the Institute of Chemistry and its graduates play in uplifting Chemical Sciences in Sri Lanka. The audience was then addressed by Ms. Pujani Usliyanage, Ms. Nisali Mendis and Ms. M. N. A Haneer who delivered their valedictory speeches for the GIC and BSc (Hons) graduates and DLTC programs respectively. The Council Members of the Institute of Chemistry Ceylon, Emeritus and Senior Professors, Senior Lecturers, Administrative staff of the Institute of Chemistry, Teaching Assistants, Parents and well-wishers were among those who attended to witness this momentous occasion.