

Nuclear Techniques in Human Health: Prevention, Diagnosis and Treatment

His Majesty King Letsie III of Lesotho,

His Excellency Mr Yukiya Amano, Director General of the IAEA,

Her Excellency Ms Veronika Skvortsova, Minister of Health of the Russian Federation,

His Excellency Mr Myint Htwe, Minister of Health of Myanmar,

Honorable Mr Detlev Ganten, Founder of the World Health Summit of Germany,

Dear ladies and gentlemen,

Chronic diseases cause increasing numbers of deaths worldwide.

According to the World Health Organization, Ischaemic heart disease and stroke are world's top two causes of death, accounting for a combined 15 million deaths in 2015. These diseases have remained the leading causes of death globally in the last 15 years.

With more than 408,200 new cases and more than 92,000 deaths, breast cancer is the leading cause of cancer in the Americas in new cases and the second in cancer deaths in women.

Statistics such as these demonstrate the need to focus our efforts on disease prevention and continuous improvement of diagnostic mechanisms

The use of nuclear techniques offers many advantages aligned to the objective of improving human health in our countries through the prevention, diagnosis and treatment of diseases.

Studies have been carried out for decades in this field such as the International Atomic Energy Agency Co-ordinated Research Project (CRP) initiated in 1999 with the principal objective to promote the use of these nuclear and isotopic techniques in the developing world to investigate the problem of chronic degenerative diseases associated with ageing and with increase in obesity in developing countries.

The promotion of this type of studies must be increased, for which we have the support of the IAEA in each of our regions and at the same time provides us with a platform to enhance collaboration and transfer of know-how and technology among the member states.

Nuclear techniques also allow clinicians to identify health issues earlier than is possible with other diagnostic methods.

Studies demonstrate that more than 90% of women diagnosed with breast cancer at the earliest stage survive their disease for at least 5 years compared to around 15% for women diagnosed with the most advanced stage of disease. Around 70% of lung cancer patients will survive for at least a year if diagnosed at the earliest stage compared to around 14% for people diagnosed with the most advanced stage of disease.

Diagnosis through nuclear techniques has been crucial in modern medicine. We cannot longer imagine the health system without these tools.

In Panama, we look forward to achieve better diagnostic techniques in medicine as there are more widely available new technologies. Having nuclear techniques in diagnostics helps to predict the cause of disease and alleviate suffering but we can not leave aside the appropriate assurance required for optimum diagnostic.

The development of a comprehensive quality assurance scheme is essential to ensure that test quality is maintained, reducing the likelihood of misdiagnosis and maintaining confidence of health service providers and patients.

An early diagnosis increases the chance of survival. But this probability is not only due to this but also to the effective and adequate treatment of the disease. The second potential benefit of early and accurate diagnosis has to do with selection of appropriate treatment strategies.

In the prevention area of non communicable diseases assuring healthy foods is very important. In these areas we have several programs supported by the IAEA, such as “Enhancing rice crop yields by improving water and nutrient management using nuclear and isotopic techniques”, “Developing analytical capabilities for the detection of chemical contaminants in food, and the quality of agrochemicals”; “Expanding and strengthening the phytosanitary surveillance system for fruit fly”. All of these programs assure affordable sources of good nutrition free of contaminants which is important for our health-

Treatment of cancer using radiation is known since the beginning of the 20th century. Advances in radiation physics and computer technology made it possible to develop more precise and innovative techniques for treating cancer while reducing side effects. This has given radiation an even bigger role in cancer care.

Capacity building for treatment techniques is still a challenge for some of our countries that should be prioritized.

We should notice that the IAEA helps Member States develop scientific and technical capacities to solve chronic challenges such as human health. Through the IAEA assistance in technical advice, networking, training, publications, developing countries are better positioned to use nuclear science and technology to improve public health.

With these words I conclude my speech and thank you for the opportunity.