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EDITORIAL

Genomics and Nanomedicine in expansión for the good of human health

Genómica y nanomedicina, en expansión por bien de la salud humana

Jadier Wong-Silva [1]

[1]Medical-Surgical Research Center. Havana, Cuba.

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Dear Readers:

The field of health sciences is in constant flux and transformation. Technological, scientific and research advances allow for the creation of alternatives that are increasingly closer to the needs of patients and populations.

There is increasing interest in personalized medicine, based on the premise that treatments are adapted to the specific characteristics of each patient, integrating genomic, environmental and phenotypic data to guarantee individualized medical care.

Currently, there is a greater emphasis on reducing the cost of genome sequencing around the world so that a greater number of people have access to genetic testing as well as to treatments based on genomic profiling in the case of cancer patients.

Similarly, there is a marked expansion in the study of pharmacogenomics, which is responsible for studying the relationship between genetics and response to drugs. Further research into this field will allow for personalizing treatment regimens, minimizing adverse effects and maximizing therapeutic efficacy.

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Meanwhile, gene therapies are revolutionizing the treatment of diseases. CRISPR-Cas9 technology has revolutionized the field of gene editing. Clinical trials in this area are advancing for the treatment of diseases such as cystic fibrosis and muscular dystrophy.

Nanomedicine is increasingly expanding its scope of work and targeted therapies are expected to warrant the design of nanoparticles to deliver drugs directly to diseased cells and thus reduce side effects. Nanomedicine is also revolutionizing methods for early diagnosis of diseases, hence the focus is on nanoparticles being designed with the intention of detecting pathologies at much earlier stages, allowing for more effective interventions.

2025 promises to be a year of great scientific and technological achievements in all areas of medicine. The progress of studies and the growth of interest in achieving more effective and personalized treatments will surely provide excellent news for global health.