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Personalized and Precision Medicine (PPM) as a Unique Healthcare Model to Secure the Human Healthcare and Biosafety Through the View of Biomedical Innova

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Abstract

Canonical Health Care is becoming increasingly unaffordable in most of the countries in the world, yet it remains ineffective in preventing or effectively treating chronic diseases. Mean-while, the link that might exert reliable control over morbidity, mortality and disabling rates as well as significantly optimize the cost and efficacy of treatment for those who had fallen ill and for persons-at-risk is Personalized & Precision Medicine (PPM).

PPM as a New Model of Healthcare is the The Unique Entity demonstrating an Integration of Fundamental & Clinical Science, Bioengineering & Translational ART, and IT Armamentarium. So, the global promise of PPM lies in data diversity. PPM as being the Grand Challenge to forecast, to predict and to prevent is rooted in a big and a new science generated by systems biology and translational medicine, whilst integrating OMICs Technologies, as well as Bioinformatics & Artificial Intelligence.

To implement PPM resources into clinical practice, there is a strong need to develop a prince-pally new strategy based on Biomarkers, including Diagnostic, Predictive, Prognostic and On-Treatment ones. Genomics and genomics biomarkers are considered to be a set of the molecular tools to probe genome for its quality and now even be tested. So, genetic testing is a type of medical test that identifies changes in chromosomes, genes, or proteins whilst providing information about per-son's genes, their products and chromosomes. In addition, improved patient outcomes with the use of the genomics tests must consider not only increased survival or quality of life, but also improved clinical decision support (CDS) & making, leading to the avoidance of unnecessary therapy. And thus genetic risk is the contribution of the genes to play in the chance we have of develop-Ing certain illnesses or diseases. So, a combination of genomic, proteomic and metabolomic biomarkers are becoming of great significance to be applied in PPM and need to be translated into the daily practice to predict risks of the carbonification and thus of disabling. Health care information technology does offer a potential solution to provide Patients (or Per-sons-at-risk) and their Physicians the greatest trust to store and interpret the clinical data col-elected, harvested and mined and to overcome most of the barriers. And bioinformatics, artificial intelligence, machine learning and biostatistics will be crucial in translating those data into useful applications, leading to improved diagnosis, prediction, prognostication and treatment.

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Meanwhile, in Autism Spectrum Disorder, ASD, is prevalent lifelong mental disorder associate-ed with difficulties in social interaction, communication skills, and behavioural patterns. we did not have reliable and efficient biomarkers until recently and it made the development of new treatments more difficult. And while the precise pathology of autism is unknown, aspirations to PPM-based resources for ASD - getting the right targeted treatment, to the right susceptible person at the right time - have been hampered by a lack of specific, informative and valuable biomarkers.
But, due to neurobiological changes underlying ASD development, cell-based therapies have been proposed and applied to ASDs, since, indeed, stem cells show specific immunologic prop-retires, which make them promising candidates in ASD treatment.

On the other hand, the fact that ASD appears to be principally genetically driven, and may be reversible postnatally, has raised the exciting possibility of using gene therapy as a disease-modifying treatment to get novel genome editing. In regard to ASD, gene therapy has excellent potential to address cognitive dysfunction in ASD.

Targeted treatments (targeted therapy) have been developed for several disorders that have a known specific genetic cause leading to autism. Since there are significant molecular and neu-radiological overlaps among disorders, targeted treatments developed for a specific disorder may be helpful in ASD of unknown ethology. PPM has drastically changed and is keeping on changing the landscape of healthcare, And in coming year's next generation biotechnologies will reorient medical practice more towards disease prediction and prevention approaches rather than treating at wider population level(s) for general public healthcare system. And the healthcare providers, public policy sector, and consumer industries will be required to develop new and creative models and products. And, no doubt, next generations will speak about the XXI century as a time, when medicine became preventive and personalized, and its outcomes predictive and guarantied.