

Individualized medicine- Reality or Utopia

Nduna Dzimiri

King Faisal Specialist Hospital and Research Centre, Saudi Arabia

With the continual increase in drug therapies in the management of disease and chronic illnesses, it has become increasingly evident that the currently recommended drug doses are not always equally effective among individuals, partly due to the variations in their genetic makeup. The recent advent of Pharmacogenetics has seeded the promises for individualized selection of therapy for common diseases in the presence of multiple treatment options, facilitated by the advances in Genetics enhanced through the various Human Genome Projects. The recent launching of Pharmacogenetics for Every Nation Initiative is the first step to making Pharmacogenetics applicable globally. Thus, the integration of Pharmacogenetics into clinical practice is increasingly being signified through high throughput technology together with the associated reduction in the cost of genetic testing, as well as the inclusion of genotype-related dosing recommendations into package inserts. However, several hurdles will have to be overcome before individualized medicine becomes a routine therapeutic modality, and many nations will not have access to pharmacogenetic resources to individualize patient therapy for years to come. To begin with, it will be necessary to generate genotype profiles for 'common' population groups within a country to serve as a resource for prioritizing target variants to be incorporated into national drug formularies, or for tailored surveillance recommendations for a specific nation. Hence, gathering of population-based drug risk information will be essential to provide recommendations for integrating local data into the decision on optimal drug therapies for ethnic populations not represented in mainstream clinical studies. Technically, it will be necessary to generate population specific recommendations for formulary creation, drug purchasing strategy and pharmacovigilance, engage national Health Ministries to develop risk profiles and implement formulary recommendations to reduce the burden of adverse drug reactions, develop risk report strategies in safety/efficacy clinical studies, and share this information with other bodies to increase global population awareness. Lastly, funding and research into affordable techniques have to be a matter of urgency, if personalized medicine has to become a reality sooner rather than later.

Biography

Nduna Dzimiri completed his Ph.D. in Pharmacology in 1985 from the University of Marburg, Germany, and pursued his postdoctoral studies at University of Cologne, before moving to King Faisal Specialist Hospital and Research Centre, Riyadh Saudi Arabia. He is the head of Cardiovascular and Pharmacogenetics Research at King KFSHRC. He has published more than 70 papers in reputed journals and is serving as an editorial board member of many reputable journals.

dzimiri@kfshrc.edu.sa