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LETTER TO EDITOR

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The Genomic Revolution Has Been Started: What does it Mean for Policymakers?

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Genomic revolution has led to promote public health and health policies and decisions. Using a structured policy of public health genomics is a main step to get along with the genetics revolution. Therefore, the attention of policy-makers should cover different topics such as stewardship domains of genomic interventions. This letter to editor aimed to introduce health policy domains related to genomic revolution.

Genomic revolution has opened a full new paradigm in healthcare and revolutionized service delivery. Bringing new meaning to the famous definition of public health, genomics develops strategies to promote health population and reduce morbidity and mortality associated with disease and susceptibility genes (1). Given the population growth rate, increasing population demand for health services, and technology promotion in Iran, the first genomic research center was established in Iran in 2012 to perform special genomic services. Genomes projects have the potential to transform the future of healthcare; however, it is still unclear how promises will turn into a routine practice.

The tremendous enthusiasm for the genetics revolution in healthcare risks driving the dissemination of genetic approaches into practice without evidence of clinical validity or usefulness.

There has not been adequate empirical evidence available to support informed policy decisions about using genetic profiling in personalized screening, or in opportunistic screening as a part of whole genome or exome sequencing. The most helpful evidence for policy making relates to effectiveness in practice, compared with standard of care, referred to as "clinical utility". Evidence-based policy requires evaluations of clinical validity and utility of emerging applications, implementing research studies to support the integration of potentially useful applications into practice and studies of the actual impact of genomic applications on health outcomes and their impact on health systems (2).

Public health agencies should use the scientific knowledge obtained from assessing the population health in the decision making and formulation of public health policies (1). Using structured policy of public health genomics is a main step to get along with the genetics revolution.

From a policy point of view, there are many complex issues about ethics, costs, benefits, individual, and societal interests to bridge the worlds of genomics and population health (3). The attention of policy-makers should cover different topics, including stewardship domains of genomic interventions and accountability, knowledge based management, capacity building for the potential stakeholders in the healthcare provision and management, health literacy (consumer knowledge of genetics), public health infrastructure to accommodate genetics developments, timely availability of affordable genetic services and a coordination process to integrate genetics into policy and programs as well as trade and intellectual property issues (4).

More in-depth assessment of the quality of existing policy evidence should be executed followed by the research on the needs of different stakeholders incorporated in the policy decisions (5).

The need to understand how to use the opportunities of this revolution and translate new knowledge into improved health in a way that benefits the entire population rather than increasing health disparities, are the other considerable issue (5).

Conclusion

Along with developing genomics projects, many ethical issues still have to be sorted out in other words, we are standing at a top of a volcano that is about to erupt. The question is "how will we engage with it?" The main issue is facilitating early conversations about what policies, including health policies or social policies, might be needed in light of potential findings of human genome research studies.

Conflicts of interest

Authors declared no conflict of interest.

Authors' contribution

Doshmangir L designed research project, Kabiri N drafted the manuscript, Doshmangir L and Alipoursakha M edited the manuscript. All authors have read and approved the final manuscript.

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