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Primary Health Care: An Approach to Community Control of Genetic and Congenital Disorders

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Abstract

In Iran, Primary Health care (PHC) has been a main approach to control of communicable diseases over past thirty years. This approach drastically improved main health indices including Infant Mortality Rate (IMR) in Iran. The experience has had two main impacts on the health situation of the country. Firstly community control of health burden of communicable diseases and secondly, bringing about opportunities to non-communicable diseases including genetic disorders to emerge. Past three decades have been also a determining era for profound progress in basic genetic knowledge and development of community tools for prevention and control of genetic and congenital disorders in the world. These advances will widen the gaps between developing countries that are already lacking of basic genetic knowledge and technologies and developed countries that own these capacities, unless there are clever designing to employ the opportunities to bridge the gaps. Iran has enjoyed its first experience of using community tools for control of one of its prevalent genetic health problem, thalassemia major, adopting primary health care approach. This article explains the expansion of the concept and the approach to community control of genetic and congenital disorders and that, how this concept is leading the country to fill the gap of genetic knowledge.

Keywords: *Primary health care, Disease, communicable, Genetics, Iran*

Introduction

Epidemiology of diseases in Iran is changing as a result of main changes in political, social and health indices. Genetic epidemiology has been changing specifically because of the impact of changes in the social life style including a sharp continuous increase in urbanization, and fall of the Infant Mortality Rate (IMR) (1-4).

When IMR falls below 50/1000 live births, genetic diseases become a main proportion of reasons for infant mortality (4-7). IMR in Iran now fell below 23/1000 live births (3). The country is therefore encountering genetic and congenital disorders as a main health problem.

To control escalating genetic burden and filling the gap of genetic knowledge, Iran designed a comprehensive genetic control programme, with approach of primary health care (2, 6-10). Beta thalassemia prevention programme was used as a point of entry to examine the concept in the work field. The results of the programme proved benefits of the idea and the methods employed (7, 8).

This approach provides the country with facilities and experience needed to establish a comprehensive community control programme to control genetic and congenital disorders (2, 3, 6, 7, 10).

Methods adopted (2, 3, 7, 8):

- Concentrating scarce genetic expertise in the country, on the national genetic problem through networking.
- Complementing relevant missing parts of the health system through designing and establishment of needed links.
- Developing undemanding and active packages of interventions to adjust genetic needs to the relevant capacities.

Results

Thalassemia prevention programme as a community genetic model of intervention led to:

- Reduction of 75% of incidence of the disease (2, 8).
- Development of a network of genetic counseling integrated in the PHC system of Iran: led to accessible genetic counseling and a ground to integrate the comprehensive plan of control for genetic disorders (2,3,8).

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- Creation of a network for genetic diagnosis linked to the PHC: initiating a community model for genetic diagnosis (2, 3, 8).
- Designing and starting establishment of integrative genetic active interventions in pilot areas including sickle cell, Hemophilia, PKU, G6PD, NTD, Down syndrome control programmes (7, 8).
- Designing and starting establishment of integrative undemanding genetic interventions, In pilot areas adopting a strategy that divides life span into several main periods and provides life- period- specific genetic services accordingly (7,8).

Conclusion

The world has achieved great advances in genetic knowledge over past 20 yr. It includes development of community tools for control of genetic disorders. Iran has been facing escalating burden of genetic and congenital health problem as a result of changes of political, social and health indices. Developing countries to solve the problem alongside with establishment of a system to access genetic knowledge and fill the gap between themselves and owners of genetic technologies need to design and develop an integrative package of control programme for genetic and congenital disorders at the community level. This approach has been employed in the thalassemia prevention programme of Iran and proved as an effective and cost saving methodology.

The approach was then expanded in other individual genetic programmes successfully including PKU control programme, and developed as a comprehensive community based integrative plan for control of genetic and congenital disorders in Iran. Axial parts of the comprehensive plan established in several pilot areas to examine the capacity of the system to operate the plan comprehensively.

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