



Intersectoral Collaboration to Develop Health Equity Indicators in Iran

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Abstract

Background: Health equity is considered as one of the main objectives of health care systems. This study was carried out with the aim of determining health equity indicators in Iran. Through consideration of these indicators, differences in health status of different social groups and different geographical areas can be shown in different periods and based on that, effective interventions can be designed. This study is carried out through a main workshop and expert panels and final consensus on selected indicators. The first draft of indicators and inequity stratifying variables were prepared and then revised by working groups consisting of experts inside and outside Health system. Finally ideas were accepted or rejected after presenting enough reasons and deep examination through the Consensus-Oriented Decision-Making (COMD) model. Fifty two indicators have been determined as health equity indicators in five areas including health, social and human development, economic development, physical environment and infrastructure and governance. Furthermore, for each indicator the proper and practical stratifying variables of inequity were identified. By calculating such indicators, it becomes possible to determine differences in health status of different social groups and different geographical areas.

Keywords: Health, Inequity stratifying variables, Equity, Iran

Introduction

Health inequities are considered as main challenges for development and social equity to a great extent worldwide. However, health information systems in most countries including Iran do not contain necessary data required for health inequity analysis (1).

Concentrating on the average status of health indicators could mask most of health disparities across population. In Iran, such differences have been investigated in some studies such as DHS survey 2000 which showed that between 1998-2000, about 93% of urban mothers compared to 87% of rural mothers received health care services

at least 2 times in their pregnancy (2). In fact, the health inequities are created by and exacerbated with social and economic disparities (3).

As an example, Chili has established the system of continuous evaluation of health status in different municipalities through gathering data related to socio-economic, educational, and mortality data from different resources. In Brazil, health inequities are evaluated in regional and state level. Health equity evaluation system in Brazil is based on data from different sources and focused on indicators of human resources, health system capacity, accessibility, utilization and quality of

medical services, health status and life conditions (4).

In 2005, Marks and Pardo conducted a research in Cuba, introducing 27 indicators related to health status, population and 53 indicators related to social determinants of health in this country (5). European Union in their initial list identified more than 400 indicators to establish health equity monitoring system in 2001. However, by 2005, the number of indicators in the list reduced to 90 indicators (6).

In recent years, tools have been introduced by WHO office in Cuba- Japan for evaluation of gaps in health status of urban population and its determinants, mainly called URBAN HEART. This tool can be considered as a proper solution for evaluating inequities in urban areas (7).

In October 2007, the WHO Country Office of the Islamic Republic of Iran offered the opportunity to pilot test Urban HEART in Tehran Municipality. Working groups were subsequently organized corresponding to all four policy domains so as to compromise on the best indicators appropriate for an equity assessment in Tehran alongside four other pilot cities in the world. As a result, 65 indicators in 6 domains were developed: physical environment and infrastructure, human and social development, economics, governance, health, and nutrition (8). In 2003, Braveman introduced conceptual framework of health equity evaluation and eight steps in policy-oriented evaluation of health equity and its determiners (9).

So as a step toward designing and implementing health equity evaluation system, this study has been done with the aim of determining health equity indicators based on Braveman suggestions. It should be noticed that currently, all indicators to some extent are calculated and reported in the country. However, the difference is the completeness of these indicators in terms of collecting health and its social determinants and also identification of health inequalities by using suitable inequity stratifiers including education, income and geographical areas.

Methods

Using literature search, all relevant documents, especially the documents of World Health Organization, experience and knowledge in the country including report of URBAN HEART project conducted by Tehran Municipality and the results obtained from consulting workshops by Ministry of Health and Medical Education (MOH), investigating health indicators and the comments of all scientists and experts of this field have been used.

At the first, the initial list containing 68 indicators was prepared through holding a workshop in which experts from different departments of MOH and other ministries and organizations and researchers from universities discussed about the criteria to include indicators. The participants in this workshop had a wide spectrum of expertise and knowledge in different areas such as epidemiology, sociology, medicine, psychology, health education, and statistics. They were selected from different offices and departments of MOH, Tehran Municipality, academics from Medical Sciences universities, staff of WHO. Based on results obtained from the workshop, the first draft of indicators and inequity stratifying variables were prepared and then revised by working groups consisting of experts inside and outside health system. The approvals of meetings were registered in form of minutes.

Finally ideas were accepted or rejected after presenting enough reasons and deep examination through the Consensus-Oriented Decision-Making (COMD) model. In all meetings, validity, reliability and its plausibility were considered as the main criteria for selecting indicators.

The tool for data collection is a form for gathering indicator data which included the name of indicator, definition of indicator, and the way indicator denominator is calculated, indicator inequity stratifiers, the main responsible system and data collection sources.

The results were finalized within 20 sessions. Then these results were reconsidered in expert panels. These panels included experts and decision makers of determined indicators during 20 meetings. Finally a comprehensive list has been extracted containing indicators and stratifiers of equity in five areas of health, physical environment

and infrastructure, human and social development, economic development and governance combined with data sources. After holding series of consultative meetings in SDH secretariat, 52 indicators for health equity is prepared and showed them to High Health & food security council. According to the request No. 100/305821 dated 6 Nov 2010 from MOHME,

the cabinet in the meeting dated 2 January 2011 has approved 52 Health Equity Indicator.

Results

The indicators which are health indicators and its determinants have been categorized in 5 areas with specific stratifiers (Table 1).

Table 1: Domains and Connected indicators

Domain	Indicators	Stratifiers
Health	Infant mortality rate, neonatal mortality rate, under 5 mortality rate, maternal mortality rate, mortality rate resulting from coronary disease, life expectancy at birth, diabetes incidence, tuberculosis, traffic injuries (inside and outside city), non-traffic accidents, incidence of all kinds of cancers, Osteoporosis incidence among women of 45-65 years old, mild mental disorders, severe mental disorders, committing suicide, DMFT average in children of 12 years old, access to primary care services, access to secondary care services, use of primary care services, use of secondary care services	Age, gender, income levels, education, region (district, urban and rural areas and marginal areas).
Physical environment and infrastructure	Public drinking water network, percentage of desirable cases of drinking water samples in terms of bacteriologic, percentage of families who have hygienic toilet in their homes according to definition, the portion and percentage of families who have access to drainage systems in their homes, occupation injuries rate both killer and non-killer, per capita green space, number of days without air pollution in a year	Age, gender, income levels, education, region (district, urban and rural areas and marginal areas).
Social and human development domain	Prevalence of under-weighted infants, prevalence of under-weight in under 5 children, prevalence of over-weight in 15-64 years old population, inclusive breast feeding for infant under 6 months, fertility rate under 18 years old and above 35 years old, literacy rate in 15-49 years old group, registration rate of 6 years children in elementary school, registration rate of 5 years old children in pre-elementary school, persistency rate till the end of elementary school, physical activity, sport facility and space per capita, incidence of disability both mild and sever cases, access of disabled people to rehabilitation services, the percentage of women headed families who receive social support, prevalence of addiction among 13 years old population and older, incidence of drug abuse, the number of mosques	Age, gender, income levels, education, region (district, urban and rural areas and marginal areas).
Economic development	Absolute poverty line, extreme poverty line, percentage of unemployment, out of pocket health care payments	Age, gender, income levels, education, region (district, urban and rural areas and marginal areas).
Governance	Basic insurance coverage, complementary insurance coverage, participation in parliament election, ratio of the number of health staff to population under coverage of urban medical care centers	Age, gender, income levels, education, region (district, urban and rural areas and marginal areas).

The sources for collecting 40 indicators are registration system and for 12 remaining indicators is survey. Registration system is somehow more comprehensive in rural areas compared to urban areas in terms of some data required for calculating indicators. So for some indicators, survey will be carried out just in urban areas.

Discussion and Conclusion

Different countries of the world are in different steps and stages for developing Health Equity Monitoring Systems. Some countries have routine health data system but they don't investigate health inequity. Some others have taken some actions for measuring health inequity, but they suffer from lack of data related to social determinants of health (10).

Our literature review showed that there are a few cases of such activities and actions in developing world. As an example, in Brazil an action has been taken for investigating health inequities in regional and state levels. The selected indicators in this country focus on human resources, capacities of health system, availability and making use of health services, supplying financial resources, quality of medical services, health status and life conditions (7).

Marks and Pardo, who determined indicators for health equity system in Cuba in 2005, collected data from 169 municipalities. In this regard, 62 experts from 17 institutions and organizations with 7 departments from Health Administration participated. The results of their work lead to introducing 27 indicators related to health status of population and 52 indicators related to health determinants (5). In fact, the results of this study is similar to Iran's work in which stratifying variables of age, gender, income status and geographical areas have been introduced as inequity stratifying variables.

Furthermore, the results obtained from the present study match to a great extent with Urban Health Equity and Response Tool for equity evaluation introduced by Cube Center of WHO applied in Iran by Tehran Municipality. In this tool, the health equity evaluation part has a matrix

which enables policy makers and decision makers to draw the status of health inequities in a way that being comparable at the district, provincial and national level with international standards.

The results of this study guarantees two main steps from 8 steps which Braveman introduced for policy-oriented evaluation of health equity and its determinants (9). We are still far from complete implementation of this system and from designing and planning proper interventions. The next steps need more intra and inter-sectoral collaborations.

This basket of indicators could be revised in future in case of necessity, some indicators can be added to it or deleted from it, definitions can be revised or stratifying factors can be changed. These indicators have been selected based on current priorities of the country and there is a long way to complete implementation of health equity monitoring system and to promote health equity and reduce the gaps in the country.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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References

1. Nolen L, Braveman P, J. Norberto W, et al. (2005). Strengthening health information

- systems to address health equity challenges. *Bulletin of the World Health Organization*, 83:597-603, 2005.
2. MOHME. Iran Demographic and Health survey. 1990.
 3. Hillemeier M, Lynch J, Harper S, Casper M. Data set directory of social determinants of health at the local level. 2004, Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
 4. Carr D, Gwatkin DR, Fragueiro D. *Multi-country study programs on equity, poverty and health*. WB. 1999.
 5. Marquez A, Pardo CL. A monitoring system for health equity in Cuba. *Cuban Professional Literature*. November/ December 2005. VII-No.9.
 6. Net E. Can we build on existing information systems to monitor health inequities and the social determinants of health in the EU 2010. EuroHealthNet, Brussels, Rue de La Loi, 67.
 7. WHO. Urban Health Equity Assessment and Response Tool for pre-testing. *Center for Health Development Kobe J. Urban HEART*. 2008.
 8. Asadi -Lari M, Vaez-Mahdavi M R. Overviews on Urban-Heart Tehran experience. www.who.int/entity/.../urbanheart/tehran_urban-heart_city_report.pdf. 2008.
 9. Braveman PA (2003). Monitoring Equity in Health and Healthcare. *A Conceptual Framework J Health Popul Nutr*, 21(3):181-192.
 10. Bonnefoy J M, Kelly A, Butt MP, Bergman J. Constructing the evidence base on the social determinants of health. *A guide: WHO*. 2007.