



The Impact of Future World Events on Iranians' Social Health: A Qualitative Futurology

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Abstract

Background: Social health is a dimension of health affected and interacts with other dimensions. Considering the rate of world changes, foresighting the influence of future events and possible trends on social health could bring about advantageous information for social policy makers.

Methods: This is a qualitative study of futurology with cross impact analysis approach. After studying possible trends and events in future, they were categorized in four domains including population, resources, climate changes, and globalization and 12 groups of events; and they were used to design a questionnaire. It was given to experts and their opinions were collected through depth interviews between May 2013 and Sep 2013.

Results: Analysis of experts' opinions reveals that future trends in four main potential domains may have some positive and more negative impacts on Iranians' social health.

Conclusion: The global "resource challenge" is the most important incoming event, considering to the four domains of global events and its final and potential effects will be the increase of inequalities leading to social threat. Since inequalities are considered the most important risk factor of health in the societies, the solution for dispel the impact of world trends on Iranians' social health is managing the crisis of inequalities which is started with fore sighting and adopting preventive strategies in all four domains.

Keywords: Futurology, Social health, Iran

Introduction

According to WHO definition, social health is assumed as one of the health dimensions, influenced by and interacting with two other physical and mental dimensions of health (1). There is no consensus on exact definition of social health, but it is defined as "the quantity and quality of individuals' interaction in order to promote well-being of society members" by consensus of scientific congresses of Iranian Scientific Associations in Social Domain. The final results of this

interaction will be promotion of social capital, decline of poverty and injustice and opposing to it is increase of social damages (2). Social health could be evaluated by various indices as social status actualization, social coherence, social integration, social acceptance, and social contribution (3).

Until a few decades ago, programs and policies of global health systems merely focused on individuals' physical and mental health, but nowadays it is

clearly revealed that growing of social damages, would increase physical and mental burden of diseases and the important role of social health and its related indices could not be ignored(4). Based on this attitude, when social damages or problems are considered as the result of lack of social health, then to prevent or mitigate damages caused by social harms such as violence, addiction, tax evasion, migration, different kinds of crimes and delinquencies, prostitution, smuggling, wickedness, and many others (5). Due to the lack of a national observatory system for social health indicators in Iran, social health trends in the past decades could not clearly be defined (2). However in recent years, social problems such as addiction, divorce, dropouts, brain drain, crime and violence are increased each year by approximately 15% (2).

Considering the fast and tremendous changes occurring in recent years especially in technology and information known as information revolution (6), have affected social interactions and interpersonal relations; therefore, forecasting future status of social health and forthcoming challenges, seems necessary.

The aim of this study was to assess the effect of future global trends on Iranian's social health by in order to adopt a suitable and preventive approach.

Methods

The present study on futurology is a qualitative study with cross-impact analysis approach. A matrix is built in this method showing interdependencies of different events. To prepare a questionnaire, first search engines were used with appropriate keywords and all related documents and articles were extracted. Those keywords were: future, futurology, futuring, future events, future studies, future trends, foresight, futuristics, future thinking. Collected articles were examined according to relevancy with subject and those articles without relevancy were excluded; future trends and events were derived and categorized.

Future global trends were classified in four main domains including demographic changes, re-

source changes, climate changes and globalization and 12 subgroups of events that will probably happen in the future.

The matrix questionnaire contained rows and columns, four groups of trends and incidents which probably would happen in the future were inserted in rows, and social health components as Likerts' five indicators from very positive to very negative in columns; and also a place was considered to insert the most important reason or evidence of this impact. The objective of Likert's questions was not qualitative analysis of the answers, but the aim was to summarize the opinions of the participants. In addition, the three definitions presented for social health were sent to the interviewers along with a guide to complete the questionnaire. These definitions were:

a) Defining social capital based on Putnam Theory(7)

b) Five indices of social health according to Keyes' Model including Social Actualization, Social coherence, Social integration, Social acceptance and Social contribution (8).

c) The arbitrary definition used in Iranian studies: the quality and quantity of people's interactions towards the welfare of the society (9).

The experts were selected based on the following criteria: 1) Researcher or faculty member of universities 2) compilation of related books and articles 3) Having a work experience of over 15 years in related fields.

Ultimately, among the experts, 13 were identified eligible who met all three-inclusion criteria.

Sampling method in this study was objective and deliberate to identify experts with questionnaire completion and profound interview with them. Questionnaire file was sent to authorities through Emails. For those interested to make verbal interview, research team referred with appointment. All of the interviews were recorded with informed consent of participants and set down (written down) word by word after each interview. Received emails and recorded interviews were analyzed with thematic analysis; so as themes were extracted, encoded and classified as the smallest meaningful units. The interviews were conducted between May 2013 and Sep

2013. The interview results were offered to the interviewees and completed in a focused group discussion.

Results

Future trends can be classified in four main domains as demographic changes, resource changes, climate changes and globalization.

First) The demographic changes

1) Changes in population structure and population aging: Although population aging and senility will happen throughout the world but it is faster in developing countries (10). Experts had two different viewpoints on the effect of population aging on social health. Some of the interviewees believed that presently we have depressed and dissociable elderly with few social interactions; and if continued, expansion of the ratio of the elderly to the whole population in the future will decrease Iranian social health. "Consider a 75 years old person having no proper amusement and recreation, waiting for his death. Now see what happens when the number of elders like this accumulates in the society." Interviewees express that the houses of the aged in their present situation make them isolated. However, others believe that the elderly may increase the social capital of the community; "since, elder persons are like focal points to absorb and gather others, they increase interactions of individuals."

In addition, the elderly growth in the community declines the proportion of the productive power and would increase the dependency ratio (10). Respondents believe that this may cause the productive group to work harder and have little opportunity for recreation and interaction with their family and friends and voluntary. Some said that instead of trying to increase population growth and youth proportion to adjust elderly ratio, it would be better to make the elderly have a healthy senility and be counted as a productive force.

Therefore, the concept of retirement is going through revision and major change and the most significant outcome is an increase in retirement

age (10). To interviewees, it has double impact on social health. In one hand, working makes people feel happy and satisfied, be productive and flourished; on the other hand, during retirement and relaxation years, they have no opportunity for leisure, recreation and interaction with their families and friends.

Furthermore, entering women into labor market is deemed to be the easiest and fastest way to double the workforce (10). The interviewees believed that getting the women into the labor market increase their social participation and communications and increase their social health. But the negative effects include fertility reduction, social damages to children, unstable family structure which lowers social capital and also decrease job opportunity for men that bring about its own problems.

2) Urbanization Expansion: During the beginning of the information revolution, it was predicted a decline in urbanization because of teleworking, remote shopping, communications and so on, but the events developed opposite and urbanization increasingly expanded. However, the distribution and dispersion of the population growth is not the same and the process of urbanization in the developing countries will be faster than the developed countries (10).

Experts believe that the social relationships in cities are different from what exists in rural communities. Cities will provide greater opportunities for social interaction, but the crowding and unfamiliarity of citizens keep them at a distance. In urban life, everyone may interact with a large number of people, but these relations are superficial, and we are facing an emotional apathy in cities. Other problems of urbanization expansion include cultural contrasts and prevalence of imported subcultures as well as reduction of social belonging. Moreover, today more than a billion people live in poor areas and slums. This means that we encounter cities with wealth, welfare, and a splendid life on one side, shantytowns lacking primary and essential facilities of life and on the other (10). Urban riots in the suburbs are also problems of many cities throughout the world (11). According to the interviewees, suburbanization, which is

accompanied by poverty, underdevelopment, and deprivation, is a great social problem of security and health of big cities. Suburban dwellers may have great interpersonal relationships but these relations have no contribution towards the promoting welfare of the community members. Not only social health of this group of people is severely threatened, they are also a threat to the social health of other citizens. "Already we see a feeling of anger and hatred in these people towards prosperous and upper classes of the society that makes us concerned." as one of the interviews mentioned.

CCTVs (closed-circuit television) are becoming an inseparable part of residential and urban landscapes around the world (12). However, these cameras proved to reduce of crime rates and help crimes not to transfer from one place to another (13); but they somehow fade away the boundaries between privacy and publicity (14). According to the respondents, urban surveillance somehow restricts people's freedom, but as people feel they are watched out, they try to control their behaviors; and this ultimately makes people feel more secured in the society.

In general, interviews suppose that urbanization has different effects and could be divided into two trends: "expansion of mega cities (metropolitans)" and "expansion of towns and medium cities"; the former would have negative influences on social health and the latter positively affects it. Some experts also believe that in coming decades there will be a reverse migration. In other words, people from large cities migrate to villages and small towns. Of course, it will happen for the high deciles of the society, since they have these characteristics: they have vehicles, excess money, and do not need full-time employment.

3) *Social Mobility (migration)*: After World War II, the direction of migration has been mainly from the so-called "South" to the industrialized countries of the "North"(15). However, as mentioned, the majority of migration processes is internal which leads to urbanization (16). As the migration flow rises, developed countries have been placed further restrictions for immigrants; As a result, illegal migrations have increased and im-

migrants even endanger their lives in this way. From the view point of interviews, in the long term, current immigration process results in the departure of experts and intellectuals and in fact 'genes drain' of Iran. "Hoping for a better life, migrants emigrate through legal or illegal means such as human smuggling and even endanger their lives in this way. They may have a reasonable and prosperous material life, but because of the failure to comply with the new environment, they could suffer mental problems and stress."

Immigrants not only are influenced by the culture of host country, they also transfer the culture of their native land to the new country. Respondents supposed that immigrants might involve in a conflict between two identities or nationalities especially religiously. "This [conflict] is more obvious about their children and second and third generations. Some immigrants have brought up their children so that they know themselves to be quite Iranian and some have been completely cut off from Iran and raised their children entirely related to the resident country."

Competition between immigrants and local citizens to get jobs and welfare facilities lead to unemployment and deprivation of some native-born citizens in those countries which in turn cause a wave of discontent with immigrants(17).

"Today, in some countries including Australia, there is a bad attitude towards foreign immigrants particularly the Iranians; they complain about being obliged to pay tax spent for immigrants. Crimes committed by some of the immigrants also have caused some prejudices against immigrants in those countries." "It is written in Japanese textbooks that drugs were entered into Japan for the first time by Iranians."

Second and third generations of immigrants encounter issues such as cultural conflict. Immigrants' children see the world with Western standards and become aware of being marginalized (18)

4) *Tourism*: Tourism is increasingly shaping contemporary perspectives that create economic prosperity and new jobs; (19) however, like immigration it brings about many cultural and social changes in the country. Tourist sites are known

as one of targets for terrorist attacks, therefore security control of these sites is considered very important (20) Respondents considered positive effects of tourism on social health more than negative effects. "Tourism, in fact is a kind of cultural and social changes that contributes to knowing different cultures, increase social capital through interpersonal communications, and have a positive impact on social health." Moreover, by boosting small domestic economies as production of handicrafts, tourism increases employment opportunities, income earning, and economic prosperity. However, without the correct planning tourism could bring about negative effects including cultural conflicts, sex business and environmental pollution.

5) *Internet*: Personalization and privatization might be the most important change in social relations pattern caused by internet, which results in enjoying freedom and more choices for individuals and transferred leisure experience from group and company fields to private fields (21). The number of virtual communities using internet is now more than real communities (22).

Virtual relations are manifesting and could somehow substitute traditional relations. In fact with help of technology, human relations increase qualitatively and quantitatively and if human is suffering, it is because of the density of relations and not the shortage of social communications (23) As stated by respondents, the internet and social networks will change interpersonal relationships in the society and will create virtual relations between individuals; despite the massive quantity, they may be very superficial and lead to the reduction of real social capital. Moreover, virtual relations have their own issues and problems: Within the virtual world of Internet, people choose virtual identities for themselves and are considered according to that identity; but they receive no consideration in real world and consequently the might become frustrated. "Today, virtual social networks and computer games fill recreation and leisure times of the youth in our country. This kind of entertainment reinforces their skills, but on the other hand makes recreational culture of the youth passive and reduces

their skills to develop creative entertainment with their own functionality."

Virtual education provides equal learning opportunities for all individuals and results in preventing academic failure, economic prosperity and development, and more social contribution. It is true that teleworking on the one hand eliminates face-to-face interactions of people in the workplace, but on the contrary, people have more time for leisure and interaction with family and friends and social volunteering; and eventually their social health will be improved. "Other considerable problems of our country are Internet crimes and fraud that create a feeling of insecurity."

Second group) Future trends of the resource

Up to now, many factors have been contributed in human life on this planet. If we want to rank them, human, energy, and environment would inevitably take the first places (24) with the population growth in the future, the demand for these resources will be increased. Since the exploitation of natural resources is not carried out based on principles of sustainable development, and it has both national and international dimensions, as a result its consequences will be first national and then global (25).

According to the reports of International Energy Agency (IEA), main sources of energy in today's world are classified into six categories: coal, oil, gas, nuclear energy, hydropower and renewable energies. Although existing technologies to achieve exploitable sources of energy with minimal environmental losses including hydrogen, biomass, solar power, and wind, now are utilized and though over the past thirty years, proportion of fossil resources such as coal, oil and gas in world energy supply was declined, but energy consumption rate has been nearly doubled in the world which in turn somehow indicates progressive growth of extraction, production, and consumption of fossil resources (26).

Nuclear energy and other new energies could hardly substitute fossil resources in a short interval (27). Especially in the developing countries, a remarkable growth is seen in energy consumption;

and this excessive demand for energy in these countries is increased much faster than population growth (28). Therefore, over the next 20 to 30 yr, fossil resources will play a key role in meeting the world's energy (29). It should be noted that there are other sources of crude oil in the world known as unconventional sources including heavy and extra-heavy oil and also oil sands and bitumen sands. Due to high cost of extracting, current oil prices, modern technology, and convenience of common resources, those resources have not attracted enough attention so far. This part of the world's oil resources is estimated to be about three times the size of common resources based on some researches (30).

Experts suppose that in our country, oil is assumed as the most important economic capital with massive influence on social capital. There were three different perspectives in regard to the impact of crude oil and gas termination on Iranians' social health: A number of respondents presumed that oil determination, for causing poverty and economic problems, will have negative impacts on social health. Others believed that: "Running out of oil reserves might makes us work hard as Europeans do!" Or "one of the causes of corruption in our country is the oil." which will have a positive impact on public health and some believed that oil depletion has no effect on social health.

In recent decades also, water has been posed as the most important issue in some countries including Iran (10). "It is predicted that in the next fifty years Southern half of the country [Iran] may be deserted due to drought." Based on the opinions of respondents, in the coming years we will be confronting the dilemma of drought which leads to reduced access to safe drinking water, competition or even war for accessing resources, anxiety and fear, socio-political and economic crisis, insecurity, depression, lack of interest, loss of social capital, forced migration from rural to urban areas. "The water may not directly impact social health, but since it brings about poverty and emigration, indirectly threatens social health."

Third Group) process of climate changes

1) Greenhouse gases and global warming: Greenhouse gases are attributed to gaseous compounds in the atmosphere that can contribute to "greenhouse effect". However there is uncertainty how these gases impact the global climate, but it is proposed that they reduce the radiation sent from earth to the outer space which resulted in global temperature rising. This will cause melting of polar ice, rising sea levels and consequently the banks going under water, drought, emerging and spread of communicable diseases, increasing pressure on tectonic plates of earth and earthquakes and increase of storms and floods, which in turn have undesirable effects on agriculture, hygiene, health, food, welfare, security, and economy (31). Although, some measures have been initiated during recent decades; but with a glance on continuance of progressive process of greenhouse gases emission, looks like that these efforts have not been effective so far (26). It is estimates that the average global temperature and sea level would continue to increase over the next years (32,33). Climate change affect mental and social health of humans in addition to their physical health (34,35).

Climate changes bring new health challenges. As temperature increase, cholera and diarrheal diseases such as malaria and Dengue fever and other infections which are coming with the vectors and also food poisoning spread more (36,37). In addition, studies show that climate changes effect on physiological functions of the body and cardiovascular system and kidneys, which increase the risk of non-communicable chronic diseases (38). The impact of future climate changes on human health is like a double-edged sword and apart from the adverse effects; these changes even with harmful effects could influence human health positively. For example, the rising of the global temperature increase mortality in hot days of the year and lower mortality rate due to chilblain in winters (39-41). Climate changes also increase annual duration of plant allergens in some parts of the world and reduce seasons with presence of these allergens in some other parts (42). Also, Agricultural production drops in some parts (43).

Social effects of climate changes are felt more in the countries with higher dependency on resources. Because the world is increasingly confronting the dangers of climate change, adaptive strategies are urgently requires. One of the most important factors affecting success of these strategies is the presence of social coherence and social capital. Air and water pollution will threaten social health indirectly by forming poverty and immigration (44).

Fourth Group) Globalization

Globalization is generally the methods that make nations, businesses, and people more connected and dependent. These ways include economic combination (integration), communications, cultural interactions and traveling (45). The main power the globalization phenomenon is the economy which causes the formation of a 'world market'(46). Other consequences of globalization in economy include: reducing rate of unemployment in countries with open economy (47,48), economical depoliticization of governments (49), progress and development of information technology will change working methods within organizations.

This does not mean ignoring social and cultural dimensions of globalization such as accelerating dissemination of information and opportunity to incline political and social contribution through new means of electronic communication.

Digital Marxism is a title given to the new era due to low expenses of necessary technologies for establishing a value (50). Other consequences of globalization on the economy are: Redistribution of the time between work, education and family, companies' tendency to outsource, labor migration, flexibility of labor force, creating a global standard for working conditions (51).

Standardization: Ongoing flow of globalization gradually eliminates differences; the same piece of music may be heard in different parts of the world. (52). Other consequences of globalization for culture and ethnicity include: politicization of ethnicity and culture (53), increase of ethnic awareness and expectations from the central government to fulfill their needs, and enhancing cul-

tural awareness (54); the technology and power is not under the control of the governments anymore (55,56).

According to the interviews, in the absence of a proper planning, globalization leads to inequality in the developing and underdeveloped countries; and also cultural aggression, social damages, recession of domestic industries, and unemployment. Yet, positive impacts such as social integration, expansion of interpersonal communications and increasing job opportunities for proficient individuals will also occur. The information technology has changed method of working within organizations and has motivated independence from the organization so that loyalty and mutual commitment between teams, companies, employees, and customers is created with a free agent rather than an organization. Globalization prompts economic prosperity and declines the government contribution through expanding utilization of technology, thus position of government for surveillance on economy and investment is weakened and also direct cooperation of people in economic fields is achieved through technology. That helps elimination of traditionally manufactured products increase of unemployment that results in recession of domestic industries in developing countries. Globalization positively influence education, for instance growing accessibility to education, increase of interpersonal relations, intensify of social functioning, modification of educational system in accordance with various needs of the society, appearance of new educational fields and decline of government contribution in educational system. Globalization on one hand causes alienation and weakening of cultural foundation, cultural conflict, cultural exchange and reduction of modesty, and on the other hand, by adopting positive aspects of other cultures, enriches culture of the society. In addition, according to the respondents, virtual education prepares every one equal opportunity for learning which reduces academic failure, economic prosperity, economic development, and expanding social participation of the society members.

"Since it is not possible to depoliticize the economy, globalization is associated with a polarization of wealth and economy and its resulting inequalities seriously threaten health of people, especially the poor (substantial distance between the rich and the poor). Respondents suppose that globalization has many positive and negative aspects that even some of them are not absolutely positive or absolutely negative."

Positive Effects: Entrepreneurship, welfare, social integration, enhancement of interpersonal communications, increasing job opportunities and empowering the people.

Negative Effects: Cultural exchange, generation gap, social damages, stagnation of domestic industries in developing countries, loss of market for traditionally manufactured products, rise of unemployment, and expansion of labor migration.

A respondent also believed that globalization of Western culture, brings about adverse cultural effect including alienation; and by providing generation gap indirectly impose negative effects on social health.

Discussion

This study is the first comprehensive study of its kind to examine future trends and their impact on the Iranian social health and tried to make use of all relevant expertise in this area. In summary, analyzing the opinions of the experts reveal that the future trends in four areas of demographic changes, resource changes, climate changes, and globalization potentially impose variable and rather negative effects on Iranians' social health.

In the first trend, the demographic changes, in the next 40 yr, the world's population will grow by 50%, almost all in developing countries. This process will be accompanied by aging, changing the concept of retirement, and entering women to the labor market. Increased migration provokes spread of urbanization and marginalization and paves the way for unemployment of indigenous citizens, cultural conflicts between generations of immigrants, violence, sexual abuse, and

economic exploitation of women. Generally, the crime rate increases: Terrorism, drug smuggling, international organized crimes, organ transplant tourism, and the world sex trade. Perhaps one of the important and positive events of this process is development of tourism that has positive effects on social health. Therefore, total impacts of this trend tend to have negative effects on Iranian social health not positive. Internet as a source of information provides freedom of choices is a hope for rebuilding the communities.

Second trend concludes resource changes; One third of agricultural lands will be destroyed; and population growth will cause a rising in the food demand. Energy consumption in the developed countries will decline while in the developing countries inclines. The total common recoverable reserves of oil, gas, and coal shall be terminated respectively in 33, 44, and 78 yr (10). Also according to the climate changes we will have water scarcity and desertification.

The resource changes as whole, mainly due to the shortage of water resources and exploitation of natural resources has negative impact on social health of the Iranian community.

The third trend was climate changes: These changes have an impact on immigration of the prosperous, but the poor will find their living at risk. In regard to ecological changes, the effects could be summarized as follows: A decrease in employment in the agricultural sector due to reduced precipitation and expansion of migration of people working in this sector to the cities, increasing mortality and morbidity caused by climate change and air pollution threatening food security caused by changes in the raining pattern, likelihood of incidence of diseases caused by climate changes such as malaria, cholera, and dengue; degradation of water quality threatening human health especially children and the elderly, environment treat, water storage etc. due to treats to the safety of wetlands (57). Altogether, by increasing inequalities, potential climate changes impose negative impacts on social health of Iranians.

The fourth trend is globalization: Social stratification and differences in exposure some results of

globalization created by decline of governments, growing the power of global corporations and international monetary institutions. The imported subcultures and reduction of national belonging are other effects of globalization which pave the way for further migration along other domestic factors increase global inequality and which leaves women and children as the most vulnerable groups. Internationalization of academic studies and training for sustainable development is a positive aspect of globalization. Increase of social accountability of governments in environmental and human rights fields is also another impact of globalization. Civil culture approaches global culture positively or negatively.

Despite vast efforts of international organizations especially in the last decade in terms of poverty and hunger reduction no significant result have been achieved compared to the expectations and determined goals. In addition, other crises such as accessibility to drugs, outbreak of fundamental wars due to religious differences, demand for migration to the developed countries, can be pointed out. Then we have to be prepared to encounter a perilous future from the climate point of view and its social, economic, and security consequences. Moreover, widening social gap and uneven distribution of wealth among people throughout the world on one hand and limited access to energy, water, food and resources on the other, could be the origin of widespread social protests and expansion of violence and insecurity in the world and turn into a serious full-scale crisis (26).

Unfortunately, due to the economic dominance of globalization, inequalities could potentially increase in Iran and their negative effects on social health would be seen, but positive effects including promotion of literacy among Iranians could not be overlooked.

One limitation of this study is that it deemed to focus on the future trends negatively which is arising from the global literature and researches in this field. Other limitation is lack of enough Iranian researches and indicators to compare with this study.

Conclusion

Generally, according to the four trends, the next important incident is challenge of resources, which has direct and potential effect on rise of inequalities and social threats. Inequalities are proposed as the most important risk factor of social health, so the result of this study could be summarized in a single phrase: In order to dispel the effect of future crisis on the Iranian social health, we have to manage inequalities and this managing process begins with forecasting and prevention.

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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