JRH
www.jrh.ir

Determination and priority of socioeconomic determinants of health in Iran: a mixed methods study

Rouhollah Zaboli[1], Hormoz Sanaeinasab[2], Mohamadreza Soltani Zarandi[3], Zainab Malmoon[4]

Journal of Research & Health
Social Development & Health Promotion Research Center
Vol. 6, No. 3, Jul & Aug 2016
Pages: 297- 306
DOI: 10.7508/jrh.2016.03.003
Original Article

1. Health Management Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran
2. Department of Health Education, School of Health, Baqiyatallah University of Medical Sciences, Tehran, Iran
3. Department of Health Administration, School of Health, Baqiyatallah University of Medical Sciences, Tehran, Iran
4. **Correspondence to:** Health Management and Economic Research Center, Iran University of Medical Sciences, Tehran, Iran
Email: Malmoon58@yahoo.com

Received: 10 Jun 2014
Accepted: 25 Oct 2014

How to cite this article: Zaboli R, Sanaeinasab H, Soltani Zarandi M, Malmoon Z. Determination and priority of socioeconomic determinants of health in Iran: a mixed methods study. *J Research & Health2016*; 6(3): 297- 306.

Abstract

The socioeconomic factors have crucial effects on health inequality. The unequal distribution of socioeconomic factors may lead to the health inequality. This study aimed to determine and give priority to the socioeconomic factors affecting health in Iran in the experts' point of view. This study was a sequential mixed methods research conducted in quantitative and qualitative phases. The study population consisted of 16 policymakers and experts in the field of economic and social determinants of health. The purposive stratified non-random sampling method was employed. The qualitative data were collected in a semi-structured interview and giving priority to factors was conducted using multiple criteria decision making with the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) method. The qualitative phase showed that the main socioeconomic factors determining health were the economic factors, income, education, sex, social class, and employment. The data analysis in TOPSIS technique showed that priority parameters were income, employment, and economic factors with coefficient of 0.66, 0.60, and 0.55, respectively. Paying attention to the socioeconomic factors may result in the increased equity and eventually the promoted public health. It is essential for policy makers to take this approach into account and improve the socioeconomic factors for attaining the promoted health outcomes.

Keywords: Determinants, Health, Socioeconomic

Introduction

Reaching for equity is the goal of health policies. Achieving equity and eliminating inequality in health is possible by considering the social factors affecting health. In the last decades, two approaches have been developed in relation to the concept of health; one is the medical approach which is based on the technology and health care interventions and the other approach which treats the health as a social phenomenon [1]. In 1948, the World Health Organization (WHO) indicated the role of social factors and their influence on health in Alma Ata Declaration. In recent years, WHO and other international institutes have mainly considered technology-or disease-focused approaches and paid less attention to the

social factors affecting health. This was mainly due to the focusing on economic approaches and market-based economy [2].

The scientific evidences show that the socioeconomic factors have a strong influence on the health outcomes and health behavior. Hence, the need of focusing on the socioeconomic factors determining health was stressed. In the early 1990s, many developed countries began to start studying the Social Determinants of Health (SDH) and health inequality. Today, SDH is the core of concerns for governments in many countries [3]. Countries have directed their activities in different ways to reduce health inequality. The plans for reducing health inequality via social determinants of health in England, the strategy of determining the factors affecting public health in Sweden, thoughts of free market economy, conservative economic policies, and the community oriented medicine in developing countries of Latin America, Eastern Mediterranean, Asia and, Africa all have focused on the social roots of diseases [4-5].

social actions in reducing the health inequality has not been successfully performed in many countries in the latter decade despite of the fact that socioeconomic factors such as social class income, unemployment, and social support have great influence on health. If the social determinants of health are not considered in a country, providing the medical care will not promote the public health. So, to close the health inequality, it is necessary to specify the role of social factors in health [6-8].

The Commission on Social Determinants of Health (CSDH) was established in 2003 to address health equity. The aim of health interventions in countries is to combat the diseases and save lives, however it has not led to the reduced inequality and inequity in the countries. The 2008 report of this commission encourages the countries to close health inequality, fill the gap of socioeconomic factors, conduct researches to identify social factors affecting health, and assess the effectiveness of interventions [9].

The commitment to the health equity requires the SDH approach. In this approach, not only the causes of health inequality in different groups are studied, but also the differences in lifestyle and standards of living at different levels of socioeconomic groups are checked. Despite of the overall improvement of global health in the 20th century, inequality in health has increased. From the evidences, the countries should consider the socioeconomic factors affecting health to prevent the health inequality through attention to the social determinants of health [10]. Several studies outside the country have clearly determined the influence of these factors on the creation of health inequality [11-12].

Haghdoost et al. studied the reduction of health inequity in Islamic Republic of Iran from 1979 to 2009 and demonstrated the health inequality in the country by analyzing the general indicators of health in men and women, urban and rural areas, different deciles of income and, at different educational levels. They concluded that inequality and inequity in health is as a result of socioeconomic factors. They also found out that health inequality is significant among different levels of literacy, income, geographic region, and sex [13].

The intersectional nature of health and challenges of social determinants of health make it complicated to focus on this subject. Reviewing the national plans and policies of social determinants of health requires considering the important socioeconomic factors in order to obtain proper analysis [14]. Since the role of healthcare system in health promotion maximally is 25%, WHO have addressed the issue of social determinants of health systematically and regularly. In 2008, CSDH provided a framework for action of Member States (Figure 1). The aim of the SDH framework is to stop the national policies which adversely affect the health [15].

Islamic Republic of Iran, thanks to the achievements in promoting health equity, was recognized WHO collaborating in the field of social determinants of health approach and the health equity in 2005 [16]. The SDH secretariat of Ministry of Health has established the

social determinants of health approach as top five priority actions to decline health inequality and promote health equity. This strategic plan was presented based on the experiences of the country, the review of scientific concepts, and the recommendations of WHO. This plan should be referred in implementing activities during the remaining years of the fourth economic, social, and cultural development plan of Iran and during the fifth plan. In this plan, 14 priority areas were identified for intervention of the social determinants of health. These factors include the early childhood evolution, spiritual and mental health, providing equitable health services, unemployment and job security, food security and nutrition, healthy lifestyle, training, knowledge and education, housing, healthy environments, social support, marginalization and remote deprived regions, equitable distribution of income, economic security, and accidents [17].

Unfortunately over the past years, enough efforts have not been taken in the field of SDH in the country. Coordination of health section with other related sections makes an opportunity; however there are many difficulties and challenges [18]. The purpose of this study was to identify and prioritize the socioeconomic determinants of health in the country in the expert's point of view.

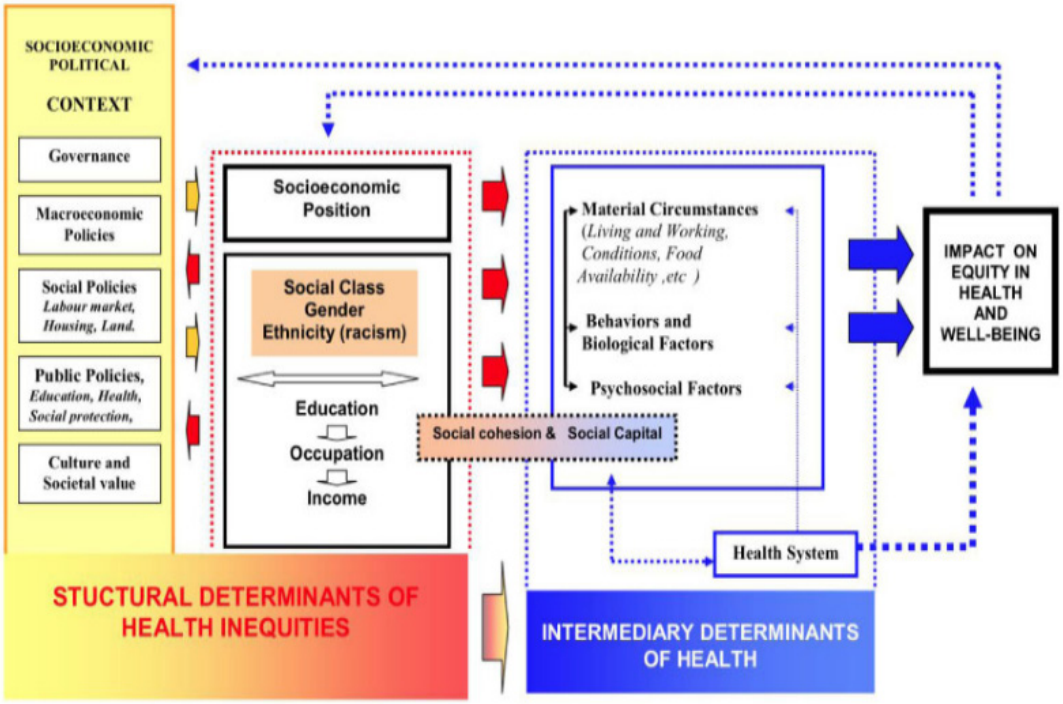

Figure1 *Conceptual framework of social determinants of health inequalities [1]*

Method

This study was a sequential mixed methods research. The required data were collected using semi-structured interview. The gathered data were validated and prioritized using a quantitative method named multiple criteria decision making method. The research population composed of policy makers and experts in the field of social determinants of health. The inclusion criteria to this study were as follows: Experts with at least three years' experience in executive or educational activities in the field of SDH; Professionals with at least a PhD degree in the sciences of health administration and health promotion, epidemiology, and community medicine. The participants were selected according to the purposive stratified non-random sampling method. The participants consisted of 42% females and 58% males.

For collecting the qualitative data, a pilot interview was conducted in a small scale prior to the main interview and the guide

questions of semi-structured interview were modified. Accordingly, three basic questions about the economic and social determinants of health were designed as the guide questions of semi-structured interview. The interview was kept until the theoretical saturation of data was reached. The interviews were recorded using a voice recorder and after writing on paper, a copy was sent to the interviewee to be approved. In order to increase the reliability of data, note taking technique was used. The Framework Analysis method was used to analyze the qualitative data and determine the codes and the main.

The data analysis was performed in six steps: Familiarization of researchers, generation of primary codes from data, searching for themes by reviewing the previous codes, further comparison of them whit data to ensure their accuracy, defining and reviewing themes and ultimately, the data analysis and preparation of the final report. To ensure the accuracy of data collected, the researcher involved with the data long and deep. Moreover, two other researchers analyzed the data in addition to the main researchers in order to improve the reliability of data interpreting. The researcher read the manuscripts to confirm the encoding and categories.

For the further confirmation, some analysis outputs of the coded participations were offered to the participants. Involving the widest variations in participants and holding the long meetings was other procedures to increase the reliability of data. The codes and sub-categories were derived from the pilot interview and then, the data reduction in the all units of analysis (codes) was continued till the themes were emerged. The semi-structured interview was performed on 16 experts to reach the saturation point and then, the sampling was completed. The interviews were accomplished in Tehran from November 2014 to February 2015 and generally held in the work place of the professionals and experts being interviewed.

The interviews were conducted by a member of the research team with expertise in health services management. The average interview time was 68 minutes with minimum of 35 minutes and maximum of 96 minutes. In order to confirm the themes, some quotes from the experts were offered as examples in the qualitative phase, which the letter P represents the participant and the figure represents the number of that participant.

Quantitative data were obtained based on Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) questionnaire. This questionnaire was designed in accordance with the socioeconomic factors affecting health which were determined from the qualitative phase. The interval bipolar scale was used to measure the qualitative indices with interval scale. In the TOPSIS technique, not only the distance of an option A_i from the ideal point is considered, but also its distance from the negative ideal point is involved. It means that the selected option should have the minimum distance from the ideal solution and simultaneously the farthest distance from the negative ideal solution. At first, the indices were determined by the experts and the criteria were specified. Selecting and weighting the criteria was accomplished according to the experts' knowledge and point of view and the criteria were ranked. After that, the decision making matrix was formed and then, the matrix of normalization and the required Algebraic calculations (multiplication of the diagonal weights) was established through weighting the criteria. Finally, the ideal decision making matrix (positive or negative) was determined and the ideal distance was specified and the optimal points were determined.

For performing the TOPSIS algorithm, the following steps were carried out:

1) Converting the decision matrix into an un-scaled matrix. 2) Creating the weighted un-scaled matrix with the assumption of W vector as input to the algorithm so that N_D is a matrix in which the score of indicators is un-scaled and comparable and $W_{n\times n}$ is a diagonal matrix in which only the main components are not zero. 3) Determining the ideal solution and negative ideal solution for the ideal

option (A^+) and negative ideal option (A^-). 4) Calculating the size of separation (intervals) using the Euclidean method. 5) Calculating the relative closeness of A_i to the ideal solution of this relative closeness

Matlab software was used to analyze the quantitative data with TOPSIS method and the economic and social determinants of health in the country were prioritized.

Results

63% of the participants had experienced over 5 years in the field of SDH and 78% had PhD degrees related to the research topic (Table1). The most important socioeconomic factors affecting health in Iran were identified based on the conceptual framework of CSDH and framework analysis. The primary codes were initially specified. Ultimately, 34 subthemes and 6 themes for socioeconomic factors in the country were identified by numerous revision and combining the codes in several times. According to opinion of the experts participated in this study, the economic and educational factors by assigning the highest frequencies were the most important themes in this dimension. In other words, the participants believed that these factors have a great influence on improving the socioeconomic status of individuals.

Table1 *Demographic characteristics of participants in the study (n = 16)*

Sex		Work experience		Specialty				Countn
Male(%)	Female(%)	Less than 5 years (%)	More than 5 years(%)	Management Sciences and Health Promotion(%)	Clinical Sciences (%)	Social Sciences (%)	Other (%)	
9 (56)	7 (44)	8 (50)	8 (50)	4 (25)	4 (25)	4 (25)	4 (25)	16

Qualitative findings: We extracted six themes of socioeconomic determinants of health in Iran as follows.

The first theme: Economic factors

Most experts believed that current conditions and economic factors exhibit the most important effect on health of people in the country. So that it was revealed from the data analysis that 16 experts referred directly and emphatically in the codes and interviews to the influence of economic factors on health of people in the country. Here are some of the quotations on this subject:

"In the present conditions of the country, if the economic issue is much stronger, it covers the rest factors" (P.4).

"Economic factors and huge policies have a great influence on the socioeconomic situation of individuals" (P.1).

"It is obvious that the economic factors have been much highlighted. Today, the impact of economy on health is well known to everyone. To reduce health inequality, the economic and social inequalities must be overcome "(P.3).

"In Iran, much work has been done on economy and income; however, in the field of economy influence on health at least, the efforts are not worthy" (P.1).

"The economy stability at first and then other factors should be considered; so, we can promote health in the community" (P.4).

"I think that the importance of economic and maybe the social factors in SDH are enormous. If we see health as a social issue, we will find that the economy is one of the most important factors on this subject" (P.4).

The second theme: Education

The experts believed that the education is one of the fundamental components determining the economic and social status of individuals. The education is defined as the academic training and educational level and the health training and literacy. Education is a very important factor in this category because it forms the health behavior of individuals. Examples of quotations of experts who are professionals in education and health promotion are as follows:

"Health training is the most effective program on national broadcasts because people have

the least sensitivity to it, they listen and learn without bias. So we should make cultures in individual and community levels "(P.6).

"The Knowledge Worker role is also a duty of Ministry of Health. We cannot use technical literature on television and also in the ministries We should train people. Academic training is only a part of the education. Individual education, teaching the families and even education in the community will improve the health literacy and we can improve the health in this way "(P.6).

"For example, we will be able to control the diabetes in the future generations by controlling the obesity. These are underlying factors. No work can be done for this generation. We need to schedule and start for educating future generations. Work" (P.4).

The third theme: Employment

Today from the evidences and numerous researches, employment or unemployment is one of the most important social determinants of health. From the experts' pint of view especially those in the social sciences participated in this study, the effect of employment in the social and economic status of individuals is profound and crucial. Examples of experts' quotations are as follows:

"Of the factors that currently indicate the inequity, one is the specialized healthcare and access to services and one is employment. A suitable job provides a source of income for the individual, is effective in the individual's mental health and social class, gives social character to people and takes them away from diseases "(P.3).

"Because one with good professional position can have a suitable job security, inherently tends to meet the welfare and health status of himself and his family" (P.9).

The fourth theme: Income

The majority of experts believed that the income is one of the necessary factors which lead to the promoted socioeconomic status and other social determinants of health in the country are affected by the individual's income and financial ability. Some of the quotations are as follows:

"There is a strong belief that a series of factors such as income, social class, nutrition or employment status of people influences the people's health even more than the health factors" (P.7).

"Income is the most important factor. You should address the income as an important factor in the ultimate model you are preparing for Iran"(P.7).

"If the income tends to affect health, its effect will be on life style or the behavior or social capital and I accept this model. By promoting per capita income, people get richer and find more opportunities to improve their own health"(P.8).

The fifth theme: Sex

From the perspective of the experts, sex determines the role of individual in the community and can be named as one of the social parameters. This is because the functioning and looking at the issue of being male or female is different in the society. Some of the related quotations are as follows:

"Even if we want to consider the sex issue, I think these 5 factors are very fundamental and of course, the structures include these issues. But I think these are important issues that you must focus on them "(P.3)

"Sex discrimination itself merely makes this lack of equity. I was born a man and you a woman; it is not a problem and this is only a difference and is inevitable. Inequality should not be in health. Health inequality and difference shouldn't be between men and women "(P.4).

The sixth theme: Social Class

And ultimately, experts believed that a person's social class is also one of the socioeconomic factors affecting health in the country, because people of different social classes and categories generally have different and specific behavioral patterns. Examples of quotations are as follows:

"Because there are differences in the individuals' social class, they behave differently and this could be considered in planning and social factors" (P.1).

"If we want to increase health of people in

communities, we should recognize the social class; in simple words we must empower our people in all fields"(P.4).

"People with different socio-economic level have different health conditions; the results of inside and outside studies have shown it clearly. Today, we must consider the social class and its influence on health as an important issue "(P.23)

Prioritizing the socioeconomic determinants after determination and identification of socioeconomic factors affecting health in the country, the quantitative analysis was carried out using TOPSIS technique based on the multi-criteria decision-making analysis. The results of TOPSIS analysis based on the knowledge of experts showed that the highest priority allocates to income, employment, and the economic factors in sequence; these determinants have the greatest influence on health of people among the other concepts in the experts' point of view participated in this study.

Table2 *Priority of socioeconomic determinants of health*

Factor	Themes	Distance from the ideal		Closeness to the ideal positive cli	Rank TOPSIS index
		di+	di-		
A4	Income	0.298	0.601	0.669	1
A6	Employment	0.379	0.571	0.601	2
A3	Economic factors	0.432	0.532	0.552	3
A1	Social class	0.46	0.531	0.536	4
A2	Sex	0.528	0.454	0.462	5
A5	Education	0.638	0.327	0.338	6

Discussion

Causative factors of health inequality are numerous. Among them, there are socioeconomic factors that have a great influence on the reduction of inequality and inequity in health of individuals. The effect of socioeconomic factors especially on health among the most vulnerable groups in societies has been proven in literature and several studies. The consideration of these factors in the approach of social determinants of health is well reflected. However, the policy makers in developing countries have less understanding of this approach and the health systems are focused on providing medical services. In order to address the root causes of health threatening factors, we should recognize the areas of inequality incidence and then, take serious measures to reform them with public participation [19].

Nowadays, socioeconomic inequality and its influence on health are highly regarded because health promotion in ill communities is much harder than helping ill persons in healthy communities [20]. Inequality in health is a special type of health differences in which, the vulnerable social groups or the groups that have permanently experienced social adverse conditions and discrimination, systematically experience worse healthy conditions or higher health risks than those with favorable social status [21].

Of the most important determinants of health inequality can be mentioned to the employment and social determinants of health, mental support and society support, urbanism and ruralism, socioeconomic variables and social status, and the culture [22-23]. Health is a proprietary product and its even distribution should be the main concern of policy makers. Inequality in health means inequality in the ability and performance of individuals and this inequality systematically leads to the inequality in social status and living conditions of people and makes the efforts of governments to fail in the field of social interventions [24].

The equity is one of the fundamental concepts in communities. Inequality in earning opportunities can adversely affect the health of economy, society, family and the physical and mental health of individuals. Inequality in the distribution of income, occupation, education,

facilities, and inequality of social classes in terms of color, race, and nationality can reduce the health indices. In the social determinants of health approach, much of health efforts take place outside the health sector. The education, housing, urban planning, social security, and social welfare are some of the sectors that contribute in health efforts significantly [25].

In James Wilson's point of view, healthcare will be a crucial factor provided that we consider the social determinants of health. The health inequality must be eliminated through promoting social and economic status [26-27]. According to the report of CSDH, health inequality within and among countries has increased, mostly due to the unfair economic arrangement and poor policymaking [3-28]. Despite of the extensive demographic and epidemiological changes and the increasing rate of demand and the rapid changes in therapeutic technologies and innovations, the health profile is threatening increasingly. So, it has been difficult for policy makers to make the decisions appropriate to the conditions. If we want to join the global movement toward healthy society, we should emphasize the social determinants of health approach and treat it as a priority in the programs of inequality reduction [29-30].

In the Mckeown and Illich point of view, provision of medical care alone will not improve the living conditions [31]. The Black's report showed how the understanding and consideration of social conditions leads to health inequality. Black et al. in order to eliminate health inequality suggested that making interventions in education and literacy levels and improving economic conditions in the socioeconomic groups can lead to the reduction in health inequality [32-33].

Unfortunately at present, the health research financial resources are often spent in clinical sector which is extremely unaware of showing and portraying these affecting factors on health and health equity status [34]. In the field of inequality in Iran, Moradi et al. showed that the parallelism status of health is not desirable in the provinces and health system managers and policy makers should pay special attention to the determinants of health, particularly socioeconomic factors in order to reduce the inequality [35]. The results of Haghdoost et al. survey showed that inequality and inequity in health in Iran is due to the socioeconomic factors and inequality in health is significant among the levels of literacy, income, geographic region and sex, and there are significant differences in this field which is in agreement with our findings [13].

Conclusion

Policymakers face great challenges in decision making. These challenges get worse and worse when the most of managers in health systems currently are encountered by numerous problems in prioritizing issues and plans due to the resource constraints. Thus, focusing on the main socioeconomic determinants of health can help policymakers to understand the root determinates and plan the better programs. In order to take basic steps in this field, developing the researches and promoting the dimensions of SDH in the country is recommended. Nowadays, attention to the SDH approach is required and wide dimensions of inequality in health need special attention. Paying attention to the socioeconomic determinants of health also requires more effort and consistent measures to reduce health inequality in the country.

One of the limitations of this study was the lack of cooperation from the experts to conduct the qualitative interviews. Lack of comprehensive understanding and recognition of the dimensions of SDH approach and recognition of socioeconomic factors were other limitations in the present study.

Acknowledgements

The authors are thankful for all the specialists and experts participated in this research.

Contribution

Study design: RZ, ZM
Data collection and analysis: RZ, HS, ZM
Manuscript preparation: RZ, MSZ

Conflict of Interest

"The authors declare that they have no competing interests."

Funding

The author (s) received no financial support for the research, authorship and/or publication of this article.

References

1- Solar O, Irwin A. A conceptual framework for action on the social determinants of health, 2007; [12 screens]. Availble atURL: http: //www.who.int/sdhconference/resources/ConceptualframeworkforactiononSDH_eng.pdf. Accessed Sep 20, 2013.

2- Hofrichter R. Health and social justice: politics, ideology, and inequity in the distribution of disease. San Francisco: Jossey-bass/John wiley; 2003.

3- Scott AJ, Wilson RF. Social determinants of health among African Americans in a rural community in the deep South: an ecological exploration. *Rural Remote Health*2011; 11(1): 1634.

4- Graham H. Social determinants and their unequal distribution: clarifying policy understandings. *Milbank Q*2004; 82(1): 101-24.

5- Krieger N. Latin American social medicine: roots, development during the 1990s, and current challenges. *Am J Public Health*2003; 93(12): 1989-91.

6- Anderko L. Achieving health equity on a global scale through a community-based, public health framework for action. *J Law Med Ethics*2010; 38(3): 486-9.

7- Griffith DM, Johnson J, Ellis KR, Schulz AJ. Cultural context and a critical approach to eliminating health disparities. *Ethn Dis*2010; 20(1): 71-6.

8- Schrecker T, Chapman AR, Labont R, De Vogli R. Advancing health equity in the global marketplace: how human rights can help. *Soc Sci Med*2010; 71(8): 1520-6.

9- Burris S, Anderson ED. A framework convention on global health: social justice lite, or a light on social justice? *J Law Med Ethics*2010; 38(3): 580-93.

10- Mogford E, Gould L, Devoght A. Teaching critical health literacy in the US as a means to action on the social determinants of health. *Health Promot Int*2011; 26(1): 4-13.

11- Muntaner C, Chung H, Solar O, et al. The role of employment relations in reducing health inequalities. A macro-level model of employment relations and health inequalities. *Int J Health Serv*2010; 40(2): 215-21.

12- Scott A, Wilson R. Social determinants of health among African Americans in a rural community in the deep South: an ecological exploration. *Rural & Remote Health*2011; 11(1): 1-12.

13- Haghdoost AA, Tehrani A, Safizadeh H, et al. Decreasing the inequity on health on I.R.Iran. 1st ed. Tehran: Ministry of health, health policy secretariat; 2010.

14- Marmot M, Wilkinson R. Social determinants of health. Oxford: University of Oxford press; 2005.

15- Burris S, Anderson ED. A framework convention on global health: Social Justice Lite, or a light on social justice? *J Law Med Ethics*2010; 38(3): 580-93.

16- Health policy secretariat, Ministry of health and medical education, 2014; [2 screens]. Available atURL http: //siasat.behdasht.gov.ir/index.aspx?siteid=291&pageid=31603. Accessed Feb 25, 2014.

17- Ministry of health, health policy secretariat, strategic plan of social determinants of health in I.R. Iran, 2010; [2 screens]. Available atURL http: //sdh.behdasht.gov.ir/index.aspx?siteid=331&pageid=34212. Accessed JAN 20, 2014.

18- Shannon MA. The use of participatory approaches, methods and techniques in the elaboration of integrated management plans. The formulation of integrated management plans (IMPs) for mountain forests. Torino: Torino University; 2003. PP: 119-134.

19- Reiss F. Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Soc Sci Med*2013; 90: 24-31.

20- Embrett MG, Randall GE. Social determinants of health and health equity policy research: exploring the use, misuse, and nonuse of policy analysis theory. *Soc Sci Med*2014; 108: 147-55.

21- Shim R, Koplan C, Langheim FJ, Manseau MW, Powers RA, Compton MT. The social determinants of mental health: an overview and call to action. Psychiatr Ann2014; 44(1): 22-6.

22- Moure-Eraso R, Flum M, Lahiri S, Tilly C, Massawe E. A review of employment conditions as social determinants of health part II: the workplace. *New Solut*2006; 16(4): 429-48.

23- Cai L. The relationship between health and labour force participation: evidence from a panel data simultaneous equation model. *Labour Economics*2010; 17(1): 77-90.

24- Gudes O, Kendall E, Yigitcanlar T, Pathak V, Baum S. Rethinking health planning: a framework for organising information to underpin collaborative health planning. *Health Information Management Journal*2010; 39(2):18-29.

25- Ansari Z, Carson NJ, Ackland MJ, Vaughan L, Serraglio A. A public health model of the social determinants of health. *Soz Praventivmed*2003; 48(4): 242-51.

26- Rasanathan K, Montesinos EV, Matheson D, Etienne C, Evans T. Primary health care and the social determinants of health: essential and complementary approaches for reducing inequities in health. *J Epidemiol Community Health*2011 ;65(8): 656-60

27- Sibbald SL, Gibson JL, Singer PA, Upshur R, Martin DK. Evaluating priority setting success in healthcare: a

pilot study. *BMC Health Services Research*2010:19;10:131.
28- Hicken MT. Interaction of social factors and environmental pollutants in black-white health disparities: The case of lead and hypertension [dissertation]. New York: The University of Michigan 2010; PP:123.
29- Theodossiou I, Zangelidis A. The social gradient in health: The effect of absolute income and subjective social status assessment on the individual's health in Europe. *Econ Hum Biol*2009; 7(2): 229-37.
30- Ensor T, Witter S. Health economics in low income countries: adapting to the reality of the unofficial economy. *Health Policy*2001; 57(1): 1-13.
31- McKeown T. Chapter 9, the modern rise of population. New York: Academic Press; 1976.
32- Smith GD, Bartley M, Blane D. The Black report on socioeconomic inequalities in health 10 years on. *BMJ*1990; 301(6748): 373.
33- Allin S, Mossialos E, McKee M, Holland W. Making decisions on public health: a review of eight countries. The European observatory on health system and policies, World health organization, 2004; [4 screens]. Available at URL: http://www.euro.who.int/data/assets/pdf. Accessed Aug 23, 2013 .
34- Health policy secretariat, Ministry of health and medical education, 2014. Available at URL: http://sdh.behdasht.gov.ir/uploads/331_1657_gozaresh%20kargah%2018%20mordad%2089.pdf. Accessed Feb 25, 2014.
35- Moradi Lakeh M, Ramezani M, Naghavi M. Equality in safe delivery and its determinants in Iran. *Arch Iranian Med*2007; 10(4): 446–51.