Trauma Mon. 2016 July; 21(3):e31341.

doi: 10.5812/traumamon.31341.

Published online 2016 June 6.

**Review Article** 

### Policies on Protecting Vulnerable People During Disasters in Iran: A **Document Analysis**

Zahra Abbasi Dolatabadi, <sup>1</sup> Hesam Seyedin, <sup>1,\*</sup> and Aidin Aryankhesal<sup>1</sup>

Received 2015 July 07; Revised 2015 October 25; Accepted 2015 November 01.

#### Abstract

**Context:** Developing official protection policies for disasters is a main strategy in protecting vulnerable people. The aim of this study was to analyze official documents concerning policies on protecting vulnerable people during disasters.

**Evidence Acquisition:** This study was conducted by the qualitative document analysis method. Documents were gathered by searching websites and referring to the organizations involved in disaster management. The documents were assessed by a researcher-made data collection form. A directed content analysis approach was used to analyze the retrieved documents regarding the protection policies and legislation for vulnerable people.

Results: A total of 22 documents were included in the final analysis. Most of the documents referred to women, children, elderly people, poor, and villagers as vulnerable people. Moreover, the documents did not provide information regarding official measures for protecting vulnerable people during different phases of disaster management.

Conclusions: A clear and comprehensive definition of "vulnerable people" and formulation of official policies to protect them is needs to be formulated. Given the high prevalence of disasters in Iran, policy makers need to develop effective context-based policies to protect vulnerable people during disasters.

Keywords: Disasters, Emergency, Disaster Management, Vulnerable People, Legislation, Policy, Iran

### 1. Context

Disasters are rare events with devastating consequences (1, 2). Factors such as urban development, population growth, and likelihood of both man-made and natural disasters worldwide (3, 4), result in the settlement of humans in dangerous areas and increase their exposure and vulnerability to disasters. Despite equal worldwide distribution of disasters, they mostly affect low-income countries (5-7).

Iran is in a high-risk geographical area and is affected by different man-made and natural disasters (8,9). According to the centre for research on the epidemiology of disasters, from 1900 to 2014, 353 disasters occurred in Iran, affecting more than 44 million Iranians and causing 161,470 deaths. For instance, the Rudbar and Manjil (1990) and the Bam (2003) earthquakes killed about 67,000 people (10,11), and flood-associated costs in 1992 are estimated to be about \$4.9 billion (12). Despite the high prevalence of disasters in the country, disaster preparedness of Iranians has been as low as 0.77%. Moreover, the preparedness of families with at least one vulnerable member is reported to be 7.69%, while the number of Iranian disabled people as a group of vulnerable people is about 17.27 per 1000 Iranians (13).

Communities strive to minimize the negative effects of disasters in four steps of mitigation, preparedness, response, and recovery (14). One of the main strategies for effective disaster management is identification of vulnerable people and increasing their disaster preparedness. Compared with the general public, vulnerable people are more at risk of experiencing injury during disasters. They are neither able to fulfill their own needs nor can they easily access resources during the disasters (15-17).

Official protection policies help reduce the vulnerability of these people. Protection policies and legislation are enacted worldwide for ensuring health and safety and preventing disabilities (18). Article 3 of the human rights act affirmed the right of life and individual security for all human beings. Article 25 recognizes the right to have access to adequate food, clothing, housing, medical care, and social services in situations beyond control. Governments are committed to providing protective measures and fulfilling the needs of people in such situations (19). Therefore, they need to enact special legislation to minimize the consequences of disasters (20) as there is little effective legislation for these people during and after disasters (21).

Previous studies show that care delivery to vulnerable

<sup>&</sup>lt;sup>1</sup>Department of Health Services Management, School of Health Management and Information Sciences, Iran university of Medical Sciences, Tehran, IR Iran

Corresponding author: Hesam Seyedin, Department of Health Services Management, School of Health Management and Information Sciences, Iran university of Medical Sciences, Tehran, IR Iran. Tel: +98-2188794301, E-mail: h.seyedin@iums.ac.ir

groups during disasters suffers from different shortcomings, including but not limited to:

- Lower disaster preparedness of disabled people and patients with chronic diseases compared with healthy ones (22);
- -Elderly people's complicated health problems, socioeconomic isolation, and inferior quality of life after disasters (23);
- -First responders' low preparedness for search and rescue of vulnerable people, including individuals with hearing problems (24);
- -Lack of evacuation plans for people with disabilities in spite of their greater need for emergency evacuation (25);
- Limited number of physicians for managing disabled children's problems during the response phase of disaster management (26);
- The occurrence of long-lasting psychological problems among children and adolescents following disasters (27); and
- Inefficient rehabilitation services for people who experience disaster-induced disabilities, even after eight months following a disaster (28, 29).

Only a few studies have been conducted in Iran in the area of vulnerable people's disaster preparedness. Most of these studies dealt with either a disaster management strategy in the response phase or the effects of disasters on vulnerable people. Consequently, to the best of our knowledge, there is no study in Iran or even developing countries to explore national policies on protecting vulnerable people during disasters.

This study analyzes Iranian national and official documents concerning protection policies for vulnerable people during disasters.

### 2. Evidence Acquisition

This study was part of a larger multi-method research project. The qualitative document analysis method was used to analyze the existing policies and legislation (30, 31). The data were collected from March to June 2014. For retrieving the relevant documents, we searched the official websites of the state welfare organization of Iran, the Iranian Imam Khomeini Relief Foundation, the Islamic Republic of Iran expediency discernment council, the Iranian Islamic parliament, the Islamic studies center of Majlis, the ministry of health and medical education, the Ministry of labor and social affairs, and the iranian red crescent society. The search key terms were "crisis," "disaster," "emergencies," "disaster management," "vulnerable people," "specific populations," "law," "right," and "politics." Some of the documents were not retrievable directly from the aforementioned websites. Accordingly, we referred to

the secretariat and the archive centers of related organizations or ministries for requesting the required documents. The inclusion criterion was produced in Persian between 1978 and 2014. A researcher-made data collection form was used. The validity of the form was evaluated and confirmed by the research team and five experts using the content validity assessment method. The documents were analyzed regarding the definition of vulnerable people as well as the protection policies and legislation for vulnerable people in the four phases of disaster management (30). Initially, 42 documents were retrieved. However, 20 documents did not address vulnerable people and were excluded.

### 3. Results

In total, 22 documents were analyzed. Fourteen documents had the definition of vulnerable people; however, most of the reviewed documents did not include the concept of disaster policies directly and addressed general policies. All of the 22 documents addressed, either directly or indirectly, the protection policies and legislation for vulnerable people during the four phases of disaster management. The study findings are explained in the following five main categories.

### 3.1. The Definition of Vulnerable People

Most of the analyzed documents defined some groups of vulnerable people without directly addressing disaster. However, apparent discrepancies existed in the documents regarding the definition of vulnerable people. Study findings revealed that vulnerable people in Iran are:

- Women (32-40);
- Elderly people (33, 35, 36, 39, 41, 42);
- Infants, children, and adolescents (33, 34, 36, 37, 39, 41, 42);
  - Disabled people (34-37, 39, 41, 42);
- Victims of previous disasters, accidents, and wars (31, 37, 42);
- Poor people, slum, villagers, nomadic tribes, and the unemployed (31, 34, 37-39, 42, 43);
- People with chronic physical or mental disorders (32, 36, 39, 41);
  - Prisoners and their families (34, 36);
  - Socially isolated people and addicts (33, 36); and
  - Refugees and homeless people (41).

# 3.2. Protection Policies and Legislations Related to the Mitigation Phase

Insurance provision, public education, and decreased structural vulnerability were among the strategies offered. However, little attention has been paid to the mitigation

phase in these issues. The importance of providing social security and healthcare insurance services to vulnerable people, such as women, villagers, nomadic tribes, people with special diseases, retired people, the unemployed, and disaster victims, as well as launching insurance services for recompensing disaster- and accident-induced damages were emphasized (35-37, 40, 43). Another strategy for protecting vulnerable people during and after disasters was education. Educating disabled people, mothers, women, elderly people, and teachers about life skills, self-care skills, safety and security precautions and measures, basic disaster preparedness, psychological support techniques, and malnutrition prevention measures are highlighted in the reviewed documents (33-35, 39, 40, 44). Moreover, the documents proposed fortifying rural and urban residential areas, finding fault-free zones for founding new cities (35, 42), as well as renovating old buildings in partnership with the public.

# 3.3. Protection Policies and Legislation Related to the Preparedness Phase

Designing and implementing surveillance and early warning systems were among the strategies proposed by the reviewed documents for the preparedness phase. Here again, the documents paid little attention to the concepts of disaster and vulnerable people. Measures such as the Iranian national emergency operation plan (36), communitybased vulnerable people rehabilitation and empowerment programs, self-care education to people with hearing problems, and the national program for psychosocial support during disasters (40, 42) were among the many initiatives addressed by the reviewed documents. Moreover, facilitating interagency coordination among governmental and nongovernmental organizations for providing the mosteffective disaster care measures during the preparedness and the recovery phases had been introduced by the Iranian five-year development plans and the national emergency and rescue plan (35, 45). Finally, developing a comprehensive information system for immediately informing people before and during disasters also was included in the documents (34, 43).

# 3.4. Protection Policies and Legislation Related to the Response Phase

One of the key aspects of the Iranian national public health disaster and emergency operations plan is providing medical care and psychological support to vulnerable people (36). Moreover, offering insurance and free medical care services to disaster victims was addressed by the reviewed documents (39, 40). The Iranian welfare organization was considered as the authority for temporary and

lifetime habitation of homeless people, including women, children, elderly people, the disabled, and patients with psychiatric problems (40).

## 3.5. Protection Policies and Legislation Related to the Recovery Phase

The reviewed documents paid special attention to providing financial support and loans to suffering people (35, 36, 39, 40, 46) as well as providing housing or renovating the houses of all Iranians (35, 36, 40, 43, 44, 46). Employment and granting business loans to people supported by the Iranian welfare organization, providing employment opportunities for women, and facilitating all Iranians' self-sufficiency were among the other items found in the reviewed documents (32, 33, 40, 42, 43). Nonetheless, none of the documents directly addressed the recovery phase of disaster management.

### 4. Discussion

The reviewed documents either directly or indirectly referred to women, elderly people, children, the disabled, prisoners and their families, slum dwellers, villagers, and patients with chronic physical and mental disorders as vulnerable people in general, without addressing disasters. According to the definitions provided by international organizations, vulnerable people include children, pregnant and breastfeeding women, widows, elderly people, indigenous people, the disabled, the poor, refugees, returning refugees, immigrants, slum dwellers, single mothers, people suffering from malnutrition, and people with chronic diseases (17, 47-50). After the 2011 earthquake and the tsunami in Japan, elderly people were considered as the most vulnerable population (51). Generally, poor, weak, and elderly people are categorized as vulnerable (52). Vulnerable people during Typhoon Haiyan included single females heading households, lactating and pregnant women, physically disabled people, indigenous people, patients with chronic disorders, as well as orphaned, abandoned, or separated children (53). Given the importance of providing disaster care fairly as well as the greater vulnerability of some populations, a clear and comprehensive definition of vulnerable people is needed. Currently, governmental documents in Iran loosely define vulnerable people.

The reviewed documents addressed strategies such as formulating building codes, renovating old buildings, and founding new cities in hazard-free zones. Moreover, insurance provision was recommended only for women, elderly people, villagers, and nomadic tribes. However, education for informing vulnerable people was taken for granted. On

the other hand, the development of a warning system was referred to only in the Iran's comprehensive health map. This document simply recommended that the warning system should be designed based on a national Islamic model. However, there is currently no real warning system for vulnerable people in Iran (54). Yet, adopting and employing effective measures in the mitigation phase can help lower the costs of disaster management in the response phase (55). Moreover, educating communication skills to first responders, physically disabled people, and communitybased service providers can minimize injuries to people with physical disabilities (23). Most people believe that disasters are the result of their fate and are predestined by God. Therefore, it is necessary to change their attitude by some strategies such as public education (56). Official policies for protecting Iranian vulnerable people have been limited to housing improvement strategies for villagers and the residents of high-risk zones, developing financial and psychological support programs, emphasizing organizational preparedness and interagency coordination for effective disaster management (14, 57, 58). However, disaster preparedness of vulnerable people was not highlighted by the reviewed documents (59, 60). Moreover, there was no information in the reviewed documents regarding a registry system(s) to keep a record of vulnerable people's characteristics. Previous studies conducted in Iran also reported a lack of such registry systems as a serious disaster management challenge (1, 61).

Strategies in other countries include, but are not limited to, identification and early evacuation of vulnerable people during floods, equitable distribution of financial resources, budget allocation for burying victims, and fulfillment of basic needs such as food and housing (16, 62). However, the reviewed documents only addressed items such as housing, psychological support, and drug and equipment supply for vulnerable people and patients with chronic disorders. Some services of the Iranian welfare organization and the Iranian Imam Khomeini relief foundation (such as temporary and lifetime habitation of homeless people) can be modified and extended to be used in the response phase of disaster management (16).

Some of the reviewed documents addressed returning to the normal situation by implementing measures such as rehabilitation as well as psychological and financial support (63-65). Because of the inequitable distribution of resources, disaster victims are at risk for poverty. Moreover, people with low socioeconomic status experience serious problems in the recovery phase. Accordingly, effective policies and strategies are needed to reduce such inequalities (66). In the recovery phase, the U.S. government is required to provide housing and medical and dental care to the victims of disasters, cover funeral expenses (67, 68), and offer

financial support and food coupons to unemployed and low-income people (16). In addition, psychotherapy and family therapy interventions usually are needed to protect children and adolescents during the recovery phase (69).

In this study, we faced several limitations. Despite our great attempt to include all relevant documents in the study, we could not retrieve several confidential documents for security reasons. Moreover, some organizations provided us with only parts of the requested documents.

The reviewed documents contain policies and strategies that can be modified and adjusted to be used for managing disasters and protecting vulnerable people in developed and developing countries. The strength of the current official policies is their particular focus on using community-based facilities for protecting vulnerable people. However, Iranian official documents and legislation neither provide a clear definition of vulnerable people nor explicitly address the four disaster management phases of mitigation, preparedness, response, and recovery. Moreover, there are no legislation or policies for developing early warning systems and identifying, registering, and educating vulnerable people. While in an Islamic country such as Iran, helping people with special needs and those who have hardship in their life is the first priority, these shortcomings significantly increase the costs of disaster management and number of disaster victims. Accordingly, clearly defining the term "vulnerable people" and adopting effective policies for protecting vulnerable people during the four phases of disaster management are needed. Measures such as disaster planning and education, fair allocation of resources, interagency coordination and collaboration also are recommended for empowering and protecting vulnerable people.

### Acknowledgments

This study was part of a PhD dissertation approved and supported by the Iran University of Medical Sciences, Tehran, Iran. The approval code is 621 (March 1, 2014).

### **Footnote**

**Author's Contribution:** Zahra Abbasi Dolatabadi and Hesam Seyedin conceived and designed the study and collected and analyzed the data. Aidin Aryankhesal assisted in the design of the study and the data analysis. Zahra Abbasi Dolatabadi and Hesam Seyedin drafted the manuscript.

### References

 Seyedin H, Zaboli R, Ravaghi H. Major incident experience and preparedness in a developing country. Disaster Med Public Health Prep. 2013;7(3):313-8. doi: 10.1001/dmp.2012.34. [PubMed: 22851618].

- Seyedin H, Ryan J, Sedghi S. Lessons learnt from the past and preparedness for the future: how a developing country copes with major incidents. *Emerg Med J.* 2011;28(10):887–91. doi: 10.1136/emj.2009.090555. [PubMed: 20943839].
- 3. McDonald RI, Green P, Balk D, Fekete BM, Revenga C, Todd M, et al. Urban growth, climate change, and freshwater availability. *Proc Natl Acad Sci U S A.* 2011;**108**(15):6312–7. doi: 10.1073/pnas.1011615108. [PubMed: 21444797].
- O'Brien G, O'Keefe P, Rose J, Wisner B. Climate change and disaster management. *Disasters*. 2006;30(1):64-80. doi: 10.1111/j.1467-9523.2006.00307.x. [PubMed: 16512862].
- Corrarino JE. Disaster-Related Mental Health Needs of Women and Children. Am J Maternal Child Nurs. 2008;33(4):242-8.
- Anwar HM. The impact of recurring natural disasters on chronic poverty. Soc Without Borders. 2008;3(2):285–301.
- 7. The United Nations office for disaster risk reduction . Global assessment report on disaster risk reduction.; 2013.
- Seyedin H, Ryan J, Keshtgar M. Disaster management planning for health organizations in a developing country. J Urban Plan Dev. 2010;137(1):77–81.
- World Conference on Disaster Reduction . National Report of The Islamic Republic of Iran On Disaster Reduction. : 2005.
- Iran Islamic republic of disaster statistics. Disaster statistic 2014.
  Available from: www.preventionweb.net.
- EM-DAT. Database advanced search 2014. Available from: http://www.emdat.be/advanced\_search/index.html. Accessed.
- 12. World Meteorological Organization . Atlas of mortality and economic losses from weather, climate and water extremes (1970-2012).; 2014.
- Rashidian A, Khosravi A, Khabiri R, Khodayari Moez E, Elahi E, Arab M. Islamic Republic of Iran's multiple indicator demographic and health survey (IrMIDHS) 2010. Tehran: Ministry of health and medical education; 2012.
- 14. Coppola DP. Introduction to international disaster management. Amsterdam: Elsevier; 2011.
- Fernandez LS, Byard D, Lin CC, Benson S, Barbera JA. Frail elderly as disaster victims: emergency management strategies. *Prehosp Disaster Med.* 2002;17(2):67–74. [PubMed: 12500729].
- Vink K, Takeuchi K. International comparison of measures taken for vulnerable people in disaster risk management laws. Int J Disaster Risk Reduct. 2013;4:63–70.
- Layton R. The Sphere Project Humanitarian Charter and Minimum Standards in Humanitarian Response.; 2011. United Kingdom.
- Mohseni RA. The sociological analysis of violation of law and solutions for legalism and public order. Nazm Va Amniyat-E Entezami. 2012;1(17):83-108.
- Kent G. The human right to disaster mitigation and relief. Environ Hazards. 2001;3(3):137-8.
- Sugarman SD. Roles of government in compensating disaster victims. Issues Legal Scholarsh. 2007;6(3).
- Reinecke I. International Disaster Response Law and the coordination of international organisations. ANU Undergrad Res J. 2010:2:143-63.
- Bethel JW, Foreman AN, Burke SC. Disaster preparedness among medically vulnerable populations. Am J Prev Med. 2011;40(2):139–43. doi: 10.1016/j.amepre.2010.10.020. [PubMed: 21238861].
- Ardalan A, Mazaheri M, Vanrooyen M, Mowafi H, Nedjat S, Naieni KH, et al. Post-disaster quality of life among older survivors five years after the Bam earthquake: implications for recovery policy. Ageing Soc. 2011;31(02):179–96.
- Engelman A, Ivey SL, Tseng W, Dahrouge D, Brune J, Neuhauser L. Responding to the deaf in disasters: establishing the need for systematic training for state-level emergency management agencies and community organizations. BMC Health Serv Res. 2013;13:84. doi: 10.1186/1472-6963-13-84. [PubMed: 23497178].
- 25. Spence PR, Lachlan K, Burke JM, Seeger MW. Media use and information needs of the disabled during a natural disaster. *J Health Care*

- Poor Underserved. 2007;**18**(2):394-404. doi: 10.1353/hpu.2007.0047. [PubMed: 17483567].
- 26. Tanaka S. Issues in the support and disaster preparedness of severely disabled children in affected areas. *Brain Dev.* 2013;**35**(3):209–13. doi: 10.1016/j.braindev.2012.09.008. [PubMed: 23312950].
- 27. Bolhari J, Chime N. Mental health intervention in Bam earthquake crisis: a qualitative study. *Tehran Univ Med J.* 2008;**65**(13):7-13.
- Raissi GR. Earthquakes and rehabilitation needs: experiences from Bam, Iran. J Spinal Cord Med. 2007;30(4):369–72. [PubMed: 17853660].
- 29. Raissi GR, Mokhtari A, Mansouri K. Reports from spinal cord injury patients: eight months after the 2003 earthquake in Bam, Iran. *Am J Phys Med Rehabil.* 2007;**86**(11):912-7. doi: 10.1097/PHM.0b013e3181583abc. [PubMed: 18049137].
- Bowen GA. Document analysis as a qualitative research method. Qual Res I. 2009;9(2):27-40.
- 31. Wesley JJ. Qualitative document analysis in political science. Amstardam: Vrije Universiteit; 2010.
- 32. Guardian Council. Islamic republic of Iran constitution.; 1979.
- Health policy secretariat. Islamic republic of Iran health system map reform based on Islamic-Iranian pattern.; 2012.
- 34. Health policy secretariat. The proposed strategic plan on health justice and social determinants of health in the Islamic republic of Iran. : 2012.
- 35. Islamic parliament research center. Fifth Five-year development plan of the Islamic republic of Iran.; 2012.
- 36. Ardalan A, Moradian MJ, Goya MM, Nadafi MK, Motlagh ME, Abdollahi Z. National public health disaster and emergency operation plan. Iran: Ministry of health and medical educatio; 2011.
- Ministry of labor and social affair. The structure law of social welfare and social security.: 2003.
- Islamic republic of Iran expediency of council. The 20 years vision of the Islamic Republic of Iran.; 2003.
- Ministry of health and medical education. Psychosocial support national programs in Disaster.; 2009.
- 40. State welfare organization of Iran . Services.; 2014.
- 41. Islamic parliament research center . Security law unaccompanied children and women.; 1992.
- Islamic Republic of Iran expediency of council. General policies by the supreme leader of Iran in the disaster prevention and disaster mitigation.: 2005.
- 43. Islamic Republic of Iran expediency of council. General policies by the supreme leader of Iran in the housing sector.; 2002.
- 44. The council of ministers . The comprehensive plan of relief and rescue: 2003
- 45. Relief committee of Imam Khomeini . The statutes of the Imam Khomeini relief committee.; 1979.
- World Health Organization . Vulnerable group 2014. Available from: http://www.who.int/environmental\_health\_emergencies/ vulnerable\_groups/en.Accessed.
- The united nation. Rights of vulnerable groups with disabilities 2014.
  Available from: <a href="http://www.un.org/en/letsfightracism/issues.shtml">http://www.un.org/en/letsfightracism/issues.shtml</a>.
- International Federation of Red Crescent societies. What is vulnerability? 2014. Available from: http://www.ifrc.org/en/what-wedo/ disaster-management/about-disasters/what-is-a-disaster/what-isvulnerability/.
- 49. United Nations Population Fund (UNFPA). Protecting of women in emergency situations 2015. Available from: http://www.unfpa.org/resources/protecting-women-emergency-situations.
- 50. Sugimoto A, Krull S, Nomura S, Morita T, Subokura MT. The voice of the most vulnerable: lessons from the nuclear crisis in Fukushima, Japan Bull World Health Organ; 2014. Available from: http://www.who.int/bulletin/volumes/90/8/11-094474/en/.
- 51. Vink K. Vulnerable people and flood risk management policies. Tokyo: National graduate institute for policy studies; 2014.
- 52. Shelter sector response monitoring preliminary findings factsheet

- typhoon Haiyan Philippines . Humanitarian aid and civil protection. ; 2014.
- 53. Krafess J. The influence of the Muslim religion in humanitarian aid. Int Rev Red Cross. 2005;87(858):327-42.
- Zaboli R, Seyedin S, Malmoon Z. Early Warning System for Disasters within Health Organizations: A Mandatory System for Developing Countries. *Health Promot Perspect.* 2013;3(2):261–8. doi: 10.5681/hpp.2013.030. [PubMed: 24688976].
- 55. Todd D, Todd H. Natural disaster response lessons from evaluations of the World Bank and others. Washington: The World Bank; 2011.
- Ghafory-Ashtiany M. View of Islam on earthquakes, human vitality and disaster. Disaster Prevent Manag Int J. 2009;18(3):218–32.
- Sharma AJ, Weiss EC, Young SL, Stephens K, Ratard R, Straif-Bourgeois S, et al. Chronic disease and related conditions at emergency treatment facilities in the New Orleans area after Hurricane Katrina. Disaster Med Public Health Prep. 2008;2(1):27–32. doi: 10.1097/DMP.0b013e31816452f0. [PubMed: 18388655].
- 58. Hoffman S. Preparing for disaster: Protecting the most vulnerable in emergencies. *UC Davis L Rev.* 2008;**42**:1491.
- Tapsell S, McCarthy S, Faulkner H, Alexander M. Social vulnerability to natural hazards. London: State of the art report from CapHaz-Net's WP4: 2010.
- 60. Yonetani M, Yuen L, Nava M, Maulit M, Kyaw P. The evolving picture of displacement in wake of typhoon Haiyan an evidence based overview. Government of the Philippines, department of social welfare and development (DSWD); 2014.

- 61. Seyedin SH, Jamali HR. Health information and communication system for emergency management in a developing country, Iran. *J Med Syst.* 2011;**35**(4):591–7. doi: 10.1007/s10916-009-9396-0. [PubMed: 20703530].
- 62. Wisner B, Adams J. Environmental health in emergencies and disasters: a practical guide. Geneva: World health organization; 2002.
- WFP . WFP policy on disaster risk reduction and management building food security and resilience. World food program; 2011.
- 64. Ciottone G, Anderson PD, Auf Der Heide E, Darling RG, Jacoby I, Noji E. Disaster medicine. New York: Mosby; 2006.
- 65. Lindell MK. Recovery and reconstruction after disaster. Encyclopedia of natural hazards. Springer; 2013.
- Fothergill A, Peek LA. Poverty and disasters in the United States: A review of recent sociological findings. Nat Hazards. 2004;32(1):89–110.
- 67. Imani-Nasab MH, Seyedin H, Majdzadeh R, Yazdizadeh B, Salehi M. Development of evidence-based health policy documents in developing countries: a case of Iran. *Glob J Health Sci.* 2014;**6**(3):27–36. doi: 10.5539/gjhs.v6n3p27. [PubMed: 24762343].
- Doshmangir L, Rashidian A, Jafari M, Takian A, Ravaghi H. Opening the Black Box: The Experiences and Lessons From the Public Hospitals Autonomy Policy in Iran. Arch Iran Med. 2015;18(7):416-24. [PubMed: 26161705].
- 69. Felix E, You S, Vernberg E, Canino G. Family influences on the long term post-disaster recovery of Puerto Rican youth. *J Abnorm Child Psychol*. 2013;**41**(1):111–24. doi: 10.1007/s10802-012-9654-3. [PubMed: 22688681].