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Short communication

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# التصدي للآثار الصحية - البدنية والنفسية - للكوارث : دراسة حالة لخطة التأهيل الإيرانية استعداداً للكوارث

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: تصف هذه الورقة طريقة وضع خطة وطنية مسبقة لمواجهة الكوارث في مجال التأهيلالخلاصة
الصحي - البدني والنفسي - للمجتمعات المنكوبة . فالبيانات التي جُمعت من مراجعة
للأدبيات ومن مناقشات فريق من الخبراء ساهمت في عملية وضع تعاريف موحدة للتأهيل الصحي
البدني والنفسي، وفي إنجاز تحليلات الأطراف المعنية V-STEEP ، وفي تحديد المنظمة
المسؤولة عن كل مهمة والمنظمات المتعاونة معها . وتم اختيار وزارة الصحة ومنظمة
الرعاية الاجتماعية على أنهما المنظمتان المسؤولتان . واعتُبرت الإدارة المتكاملة على
جميع المستويات، وتبادل المعلومات، والتثقيف، والتمويل، سبلاً لتحسين مشاركة
الأطراف المعنية وتعاونها . هناك حاجة إلى منظومة تقيِّم مدى تنفيذ خطة التأهيل
لمواجهة الكوارث باستخدام مؤشرات صحيحة وموثوقة .

**ABSTRACT** This paper describes the process of developing a national pre-disaster plan for physical health and psychological rehabilitation of disaster-stricken communities. Data gathered from a literature review and expert panel discussions informed the process of drawing up unified definitions of physical and psychological health rehabilitation, carrying out stakeholder and STEEP-V analyses, and assigning the responsible organization and the collaborative organizations for each task. The Ministry of Health and the Welfare Organization were selected as the two responsible organizations. Integrated management at all levels, and sharing information, education and funding, were identified as ways to improve stakeholders' participation and collaboration. A system is needed for evaluating the implementation of the disaster rehabilitation plan, using valid and reliable indicators.

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## Agir en réponse aux conséquences physiques et psychologiques des catastrophes naturelles : étude de cas du plan de relèvement post-catastrophe en Iran

**RÉSUMÉ** La présente étude décrit le processus d'élaboration d'un plan national de préparation aux catastrophes naturelles pour la santé physique et la réhabilitation psychologique des populations frappées par les catastrophes. Les données collectées à partir d'une analyse documentaire et de groupes de discussions d'experts ont permis la rédaction de définitions unifiées en matière de réhabilitation au plan de la santé physique et mentale, la conduite d'analyses des parties prenantes et d'analyses PEST(E)-V (politique, économique, sociologique, technologique et écologique, et questions liées aux valeurs), et l'attribution de chaque tâche à l'organisation responsable et aux organisations collaboratives. Le ministère de la Santé et l'Organisation de protection sociale ont été désignées comme les deux entités responsables. Une prise en charge intégrée à tous les niveaux, le partage de l'information, l'éducation et l'aide financière ont été identifiés comme les moyens de renforcer la participation et la collaboration des parties prenantes. L'établissement d'un système est requis pour évaluer la mise en œuvre du plan de relèvement post-catastrophe à l'appui d'indicateurs valables et fiables.

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## Introduction

Natural disasters impose a great burden on populations, causing death, injury and psychological disorders and fracturing social as well as physical structures (1). Although the impact of disasters on humans is wide-ranging (2), physical and mental health problems of the affected population are the immediate concern after natural disasters (3,4). Rehabilitation—the actions taken to provide support for the well-being of survivors in the aftermath of a disaster—focuses on enabling people to resume normal patterns of life (5). Clearly, the speed and success of rehabilitation is greatly enhanced when plans are in place prior to natural disasters to provide a framework for stakeholders to cope with the evolving conditions (6). Some studies have highlighted the necessity of planning for the restoration of people's health and a few have reported on rehabilitation planning for restoring the physical and mental health of damaged people (7–11). To our knowledge, however, no previously published paper has reported a pre-disaster rehabilitation plan.

The Islamic Republic of Iran is a highly disaster-prone country; during recent decades, disasters of different kinds have affected about 42 million Iranians and killed 78 000 of them (12,13). More attention is therefore needed to planning for physical and psychological health rehabilitation of affected people. Although some studies, carried out after the Bam earthquake in 2003, highlighted the mental and physical health problems and effective therapeutic interventions (14–16), no pre-disaster rehabilitation plans were in place. Furthermore, while there are a plethora of organizations to assist health agencies in the rehabilitation process, no national plans have been drawn up to manage the organizations involved after disasters and to avoid any duplication of efforts. To fill these gaps, the present paper reports on the process of developing a comprehensive pre-disaster plan for physical and psychological health rehabilitation in disaster-stricken communities in the Islamic Republic of Iran. The underlying purpose was to assist health practitioners and managers to deal with natural disasters by ensuring that their roles and responsibilities were clearly defined.

## Methods

The rehabilitation plan was drawn up with the participation of 80 experts working in 34 governmental and nongovernmental organizations working in the field of disaster health management. The Iranian National Disaster Management Organization drew up the plan and supervised the project process. The project was handled by a research team who worked in the Department of Disaster and Emergency Health, at the National Institute of Health Research, Tehran. The research team carried out the literature review, data gathering and analysis and facilitated at expert panels, brainstorming and group discussions.

The phases of establishing the plan were as follows. First, a comprehensive literature review was made and expert discussions were carried out to finalize unified, acceptable definitions of physical health and psychological rehabilitation that would be applied by all involved organizations. Secondly, a stakeholder analysis and STEEP-V [social, technological, economic, environmental/ecological, political and value-based issues] analysis were made to establish the factors that will influence the Islamic Republic of Iran's post-disaster physical and mental health rehabilitation up to 2024. The third step was to ascertain the values, goals, objectives and strategies of the plan. Finally, the main responsible organizations and the relevant collaborative organizations as well as their responsibilities and collaborative functions were identified according to the data extracted from advisory and expert panels, with the participation of all involved organizations working in the field of disaster health management.

The stakeholder analysis was initiated by listing all related organizations that had a potential interest in and/or impact on post-disaster physical health and psychological rehabilitation. The list was drawn up by the research team via the advisory panels. This was followed by rating the organizations' levels of interest and of impact from 1 to 5 (positive to negative). This was carried out by representatives of the involved organizations at consensus meetings and expert panels, and the data were analysed by the research team. Higher scores represented higher levels of interest or impact.

The STEEP-V analysis was begun by brainstorming participants on factors that might have an influence on public policies, values, goals and strategies for physical health and psychological rehabilitation in either a favourable or unfavourable manner. At this stage, a subset of experts working in 34 governmental and non-governmental organizations participated through advisory and expert panels.

Expert panels, brainstorming and group discussions were the main methods of data gathering. Experts from relevant disciplines-disaster epidemiology, disaster and emergency medicine, rehabilitation management, and social welfare-were invited to join the panel discussions. In total, more than 20 advisory and expert panels were held with the contribution of 15–30 experts per session.

## Results

### Physical health and psychological rehabilitation plan

After the literature review and the stakeholders' consensus, the following definitions of physical health and psychological rehabilitation were approved:

Physical rehabilitation: supportive interventions and services provided for people with physical disability caused by the disaster to help them cope with this special situation and act as productive individuals in their communities.

Psychological rehabilitation: psychological supportive care and interventions provided after mental trauma resulting from disasters. Services would be provided for shocked and damaged people, providers and disaster managers in the short, medium and long term.

According to the stakeholder analysis, the following organizations and stakeholders had the highest interest in post-disaster physical health and psychological rehabilitation: the health workgroup of the National Disaster Management Organization (a governmental organization for managing disasters at the national and local levels); the relief, rescue and public education team of the National Disaster Management Organization; Ministry of Health; Iranian Red Crescent Society; University of Social Welfare and Rehabilitation Sciences; Iranian Blood Transfusion Organization; for-profit nongovernmental organizations; vulnerable groups and affected people; and community health workers (behvarzan). The stakeholders with the highest impact on physical health and psychological rehabilitation were identified as the Ministry of Health; Welfare Organization (a governmental organization responsible for providing a healthy life for poor and disabled people); World Health Organization; Basij Medical Association (a private association of medical experts); Passive Defence Organization (a private organization managed by the armed forces to provide the national security in pre- and post-disaster phases); and providers of health care, rehabilitation and social services (Table 1). Sharing information, education and funding were identified as the best methods of improving stakeholders' participation and collaboration.

The most important factors revealed by STEEP-V analysis are shown in Table 2. Such social, technical, economic, environmental, political and value-based issues will affect the whole operation of the physical health and psychological rehabilitation plan up to the year 2024; the STEEP-V factors will be reviewed and updated after 10 years. For example, the media's role in keeping people informed about the rehabilitation plan and services had the highest positive score in the technological category, while inadequate basic services with unqualified staffing had the greatest negative score. In addition, population vulnerability was identified as the strongest negative factor in the social group. Policy-making and planning for disaster rehabilitation, and training responsible human resources, had the highest positive ratings in the political and value-based category.

The policies of physical and psychological health rehabilitation were defined as follows: integrated rehabilitation management at all levels; knowledge management based on scientific evidence and local technology; use of religious associations and institutions for facilitating rehabilitation efforts; a focus on vulnerable groups such as children and elderly and disabled people; community-based rehabilitation planning; and comprehensive physical health and psychological rehabilitation in line with sustainable development. The values which should be followed by all responsible and collaborative organizations were described as: to consider human dignity; to focus on equality in all the stages; to act in line with national values and autonomy; and to take into account the concepts and values of Islam.

## Goals, strategies and responsible and collaborative organizations

The goals and strategies of physical health and psychological rehabilitation and the responsible and collaborative organizations were identified in accordance with the policies and values defined above, as well as the stakeholder analysis and STEEP-V outputs.

### Physical health rehabilitation

Goal: rapid and effective restoration of physical capabilities of people disabled by disasters, as well as those with pre-existing disabilities, to allow them to perform routine activities of life independently.

Strategies: standardization of physical rehabilitation services; development of technical, financial and human resources to provide the necessary services; and establishment of networks for physical rehabilitation services.

Responsible organization: Ministry of Health.

Collaborative organizations: Welfare Organization, Iranian Red Crescent Society, Social Security Organization and Basij Medical Association.

### Psychological health rehabilitation

Goal: to prevent and treat psychological disorders resulting from natural disasters in order to restore the mental health of people adversely affected by disasters.

Strategies: to establish psychological rehabilitation services; to develop and organize public/professional human resources; to provide standard psychological services based on gender and other social factors; to integrate mental health interventions into relief efforts; and to encourage positive thinking among the affected communities.

Responsible organization: Welfare Organization (an important public organization with the mission of supporting disabled and poor people in the Islamic Republic of Iran).

Collaborative organizations: Ministry of Health, Iranian Red Crescent Society, Social Security Organization, Psychological Organization and Basij Medical Association.

The final part of the report summarized the most important tasks of the responsible organizations (Table 3).

## Discussion

The present project represents the first attempt to develop a pre-disaster physical health and psychological rehabilitation plan for the Islamic Republic of Iran. Some studies have reported rehabilitation plans developed after a disaster (12,13). Although these post-disasters plans may be successful, planning for physical and mental health rehabilitation is more effective if it is done before the occurrence of a disaster (6). A number of studies have highlighted the necessity of developing a pre-disaster rehabilitation plan for the physical and mental health of affected people (7–11). However, such a plan should be in line with the sociocultural context of the affected communities and the structure of the available disaster health management organizations.

The national rehabilitation plan for the Islamic Republic of Iran included providing unified terminology and definitions for physical health and psychological rehabilitation in order to avoiding misunderstandings during the rehabilitation phase. Based on the stakeholder and STEEP-V analyses, community health workers (behvarzan) had the highest score in both interest and impact on rehabilitation initiatives. It seems that the capacity of public health centres is important for effective implementation of the physical health and psychological rehabilitation plan. However, such capacity has not so far been applied for post-disaster physical health and psychological rehabilitation efforts in the Islamic Republic of Iran.

Pre-defined tasks of the responsible organizations and collaborative organizations can help them to work in a more coordinated way. These responsibilities were determined and approved by all the involved organizations in order to avoid any duplication of efforts after disasters. Social protection and financial support for vulnerable people, including children and disabled and elderly persons were also considered in the public policy.

It is recommended that a system be developed for evaluating the implementation of the physical health and psychological rehabilitation plan, using valid and reliable indicators. Additionally, the findings suggest that an executive guarantee, for example from the Office of the President of the Islamic Republic of Iran, should be made to enforce the involved organizations to fulfil their responsibilities before and after disasters. The plan was focused on natural disasters and further research will be required to make a comprehensive response and rehabilitation plan for man-made and bioterrorism emergencies.

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## References

1. Beaudoin CE. News, social capital and health in the context of Katrina. J Health Care Poor Underserved. 2007 May;18(2):418–30. PMID:17483569
2. Guidance note on recovery: health. Geneva: United Nations Development Programme/International Recovery Platform/United Nations Office for Disaster Risk Reduction; 2010 (http://www.unisdr.org/files/18782_irphealth.pdf, accessed 28 February 2016).
3. Rauch A, Baumberger M, Moise F-G, von Elm E, Reinhardt JD. Rehabilitation needs assessment in persons with spinal cord injury following the 2010 earthquake in Haiti: a pilot study using an ICF-based tool. J Rehabil Med. 2011 Nov;43(11):969–75. PMID:22031341
4. Ciottone GR, editor. Disaster medicine. 3rd ed. Philadelphia: Mosby Elsevier; 2006.
5. Aysan Y, Davis I. Rehabilitation and reconstruction. Geneva: United Nations Development

Programme/Department of Humanitarian Affairs Disaster Management Training Programme; 1993.

6. National disaster recovery framework: strengthening disaster recovery for the nation. Washington (DC): Federal Emergency Management Agency; 2011 (http://www.recoveryplatform.org/assets/tools_guidelines/predisaster_planning/US%20National%20Disaster%20Recovery%20Frameworkv2.pdf, accessed 26 February 2016).

7. Gosney J, Reinhardt JD, Haig AJ, Li J. Developing post-disaster physical rehabilitation: role of the World Health Organization Liaison Sub-Committee on Rehabilitation Disaster Relief of the International Society of Physical and Rehabilitation Medicine. J Rehabil Med. 2011 Nov;43(11):965–8. PMID:22031340

8. Heimann P, Issakov A. Repair and recovery of health systems: WHO tools for evidence-based resource planning within the context of post-tsunami rehabilitation of health facilities and restoration of health services Geneva: World Health Organization; 2005.

9. Chowdhury M. Research report on a comparative study of disaster risk reduction and post disaster livelihood recovery program in Japan and Bangladesh. Kobe, Japan: Asian Disaster Reduction Center; 2012.

10. Pakistan floods 2010. Early recovery plan for the health sector. Islamabad: World Health Organization Health Cluster—Pakistan; 2011 (http://www.who.int/hac/crises/pak/pakistan_early_recovery_plan_12february2011.pdf, accessed 28 February 2016).

11. Post-disaster rehabilitation activities in India [Internet]. New Delhi, India: Aga Khan Development Network; 2001 (http://www.akdn.org/india_rehabilitation.asp, accessed 28 February 2016).

12. Islamic Republic of Iran: disaster and risk profile. Basic country statistics and indicators [Internet]. Geneva: United Nations International Strategy for Disaster Reduction; 2011 (http://www.preventionweb.net/english/countries/statistics/?cid=81, accessed 28 February 2016).

13. Moaierinezhad H. [The most destructive earthquakes of Iran]. Tehran: Khabar Online; 2012 (http://www.khabaronline.ir/detail/235750/society/urban, accessed 28 February 2016).

14. Farhoudian A, Sharifi V, Rahimi A, Radgudarzi R, Mohammadi M, Yunesian M. The study of PTSD prevalence and its symptoms in affected people of Bam earthquake. Journal of Cognitive Sciences News. 2006;8(3):58–70.

15. Ghomashchi F. The effect of problem solving education on treatment of PTSD patients of Bam earthquake. Journal of Ardebil University of Medical Sciences. 2008;8(3):294–300.

16. Rahimi A, Farhoudian A, Radgudarzi R, Sharifi V, Yunesian M, Mohammadi M. Revalence and change of drug use in affected people of Bam earthquake. Payesh Journal. 2006;6(3):209–17.

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