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Letter



Identifying Organizations Providing Healthcare Services in Floods and Explaining Their Duties to Children

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Dear Editor,

Flood is one of the most important natural disasters that have significantly damaged lives, properties, and the environment (1). Based on the Global Bank assessments, earthquakes, drought, and flood are the most important disasters in Iran (2). In 2019, flash floods affected 200 cities and 4,300 villages and had 80 deaths and 1,136 injured (3).

Based on the standards defined in the SPHERE project, children are known as one of the vulnerable groups in disasters due to their lack of physical development, lack of self-care ability, and dependence on parents to meet basic needs (4, 5). Studies show that children in floods are exposed to infectious diseases such as measles, cholera, colds, diarrhea, and diseases transmitted through water and food. Problems caused by disruptions in the process of receiving healthcare services, such as interruption or delay in vaccination, as well as disruptions in receiving oral and dental health services, impairment of food security, along with mental injuries caused by disasters, such as post-traumatic stress disorder (PTSD) (6).

Children's health will be affected by any flaws, ignorance, parallelism, and irrelevant interventions made throughout the process of holding accountable responsible and helpful organizations (7). Different organizations are involved in obtaining health services for children in floods, such as the Ministry of Health and Medical Education (MOH), the Red Crescent Society of the Islamic Republic of Iran (RCS), and the Welfare Organization (8).

(1) Ministry of Health and Medical Education:

The MOH is responsible for managing health sector emergencies and disasters in accordance with Article 14 of

the Law on the Formation of the National Disaster Management Organization (approved in 2019), with the goal of reducing deaths, illnesses, and disabilities. In this regard, a program called "National Disaster Response Program in the Health System" has been developed that specifies the principles, duties, and regulations, general and specific functions of all different parts of the health system. Due to the recurrence of floods in various provinces and increasing intensity and frequency, it is crucial to develop specialized programs for disasters like floods and target population, which includes children.

(2) Red Crescent Society of the Islamic Republic of Iran (RCS):

The RCS is a non-governmental organization and should help in providing relief and rescuing the injured in a disaster such as floods (9). The RCS has compiled several programs for preparing and responding to incidents, one of the latest programs being the compilation and notification of the response plan for rescue operations. These programs and instructions are mainly compiled with all hazard approaches. Instructions for dealing with floods, especially for children, have not yet been included in the agenda.

(3) Welfare Organization:

The welfare organization is a government institution under the Ministry of Welfare and Social Security of Iran, which is responsible for handling the affairs of orphaned children, managing nurseries, kindergartens, disabled children, as well as working and street children. The welfare organization has a disaster headquarters, which is responsible for dealing with families covered by welfare, in-

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Health Services Organization and Subsidiary Units	Task Description
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Environmental health	Coordination in the distribution of food and water; Quality control of drinking water; Sanitary waste materials; Supervision of bathrooms and sanitary; Evaluation of the children's place of residence
Mental health	Providing mental health services; Mental rehabilitation program; Obtaining play therapy for children; Implementation of psychological interventions for children under six years old; Attention to psychological needs
Pre-hospital emergency	Obtaining emergency services for children; Transporting children in need of medical services to the hospital; Documentation of children's information for tracking; Assisting in the inter-hospital transfer of children injured in floods
General hygiene	Evaluation of children's health status; Vaccination; Evaluation of children's nutritional status; Planning for relief food packages; Iron drop distribution; Obtaining dental services; Personal health education
RCS	Risk assessment and analysis; Rescue children; Obtaining relief services for injured children; Transporting the injured; Identification and registration of volunteer groups; Obtaining comfort facilities for the teams and people participating in the flood; Distribution of cash and non-cash aid; Management of emergency accommodation and distribution of tents; Distribution of relief items; Management of relief, rescue, and health information; The distribution of powdered milk; The distribution of relief food packages
Welfare organization	Obtaining suitable vehicles for moving and transporting disabled children; Registering the database of disabled children; Obtaining schools and playgrounds; Obtaining rehabilitation equipment; Assessment of the living conditions of disabled children; Obtaining basic facilities in the camp

Abbreviations: MOH, Ministry of Health and Medical Education; RCS, the Red Crescent Society of the Islamic Republic of Iran

cluding the distribution of food packages. The common challenge of all the above organizations is parallel work or performance. It means that inter-organizational coordination has not been done, and the responsible organizations are not aware of each other's interventions. The lack of transparency of the assigned tasks and, the inconsistency between the description of the organizational tasks and their performance, the lack of guarantee of implementation lead to deficiencies in important actions.

Lack of transparency in communication between the various organizations, or with Iran's crisis management organization or related offices, the uncertainty of the command of various organizations, including administrative, military, and institutions, are the main problems (10). Lack of instructions and duties of various organizations were identified, which had severely affected the provision of services of the organizations involved in the flood. The rules and regulations, and protocols should be determined in all disaster management cycles. In this regard, the description of duties should be clarified at different management levels (national, provincial, regional, and rural) for flood management (11). The following functional framework is proposed to resolve the existing gaps (Table 1).

Developing a response plan, determining the scope of interventions, coverage of services, and the effectiveness of the measures taken after the flood can help the process of reducing the risk of disasters in children. Considering the increase in floods and their harmful consequences on children, it seems necessary to define flood-specific children's health service packages in the responsible organizations.

The design of these service packages, along with executive scientific planning for training human resources and providing the necessary equipment in the form of providing special service kits for children in floods, can be effective.

On the other hand, providing appropriate and effective services to children affected by floods requires clarification of job descriptions and completion of service gaps according to the role of relevant organizations. According to the conducted investigations and the existence of planning and operational discussions in the field of providing services to children, it is suggested that the health system and organizations responsible for flood management, in addition to compiling risk-oriented programs and instructions, plan for their training and implementation at local levels.

Also, according to the changes in the environmental conditions, laws, and background of community health and condition, the description of duties will be reviewed, and after updating, it will be notified by the disaster management organization. Also, the organizations must provide the necessary training through information, a tabletop exercise to get familiar with the job description, and an operational exercise to promote coordination for improving the effectiveness of services to children affected by floods.

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References

- Hosseini SMA, de la Fuente A, Pons O. Multicriteria Decision-Making Method for Sustainable Site Location of Post-Disaster Temporary Housing in Urban Areas. J Constr Eng Manag. 2016;142(9). https://doi.org/10.1061/(asce)co.1943-7862.0001137.
- Ghomian Z, Yousefian S. Natural Disasters in the Middle-East and North Africa With a Focus on Iran: 1900 to 2015. Health in Emergencies and Disasters Quarterly. 2017;2(2):53–62. https://doi.org/10.18869/nrip.hdq.2.2.53.
- Sarani M, Safi-Keykaleh M, Safarpour H, Honarvar MR, Kalteh E, Jahangiri K. Tractor Ambulance: An Initiative of Emergency Medical Services Response to the Flood of Golestan, Iran in 2019. *Disaster Med Public Health Prep.* 2022;16(4):1695–7. [PubMed ID: 33947502]. https://doi.org/10.1017/dmp.2021.22.

- Fothergill A. Children, Youth, and Disaster. In: Oxford University, editor. Oxford Research Encyclopedia of Natural Hazard Science. Oxford, England: Oxford University Press; 2017. https://doi.org/10.1093/acrefore/9780199389407.013.23.
- Sohrabizadeh S, Jahangiri K, Khani Jazani R. Reproductive health in the recent disasters of Iran: a management perspective. *BMC Public Health*. 2018;18(1):389. [PubMed ID: 29562887]. [PubMed Central ID: PMC5861605]. https://doi.org/10.1186/s12889-018-5311-2.
- Ebrahimian A, Masoumi G, Jamshidi-Orak R, Seyedin H. Development and Psychometric Evaluation of the Pre-hospital Medical Emergencies Early Warning Scale. *Indian J Crit Care Med.* 2017;21(4):205–12. [PubMed ID: 28515604]. [PubMed Central ID: PMC5416787]. https://doi.org/10.4103/ijccm.IJCCM_49_17.
- Daneshmandi M, Amiri H, Vahedi M, Farshi M, Saghafi A, Zigheymat
 F. [Assessing the level of preparedness for confronting crisis such as
 flood, earthquake, fire and storm in some selected hospitals of Iran].
 Iranian Journal of Military Medicine. 2010;12(3):167-71. Persian.
- Shokri A, Sabzevari S, Hashemi SA. Impacts of flood on health of Iranian population: Infectious diseases with an emphasis on parasitic infections. *Parasite Epidemiol Control*. 2020;9. e00144. [PubMed ID: 32215322]. [PubMed Central ID: PMC7083784]. https://doi.org/10.1016/j.parepi.2020.e00144.
- 9. Peyravi M, Rahnavard F, Ahmadi Marzaleh M. Overview of the strengths and challenges associated with health-care service rendered in the first 10 days after the great flood in Northern Iran, 2019. *Trauma Mon*. 2020;25(5):220-6. https://doi.org/10.30491/TM.2020.213594.1024.
- Dehghani A, Ghomian Z, Rakhshanderou S, Khankeh H, Kavousi A. National Documents Analysis of Risk Communication in Iran: Based on Disaster Risk Management Cycle. Shiraz E-Med J. 2022;23(12). https://doi.org/10.5812/semj-131237.
- Dehghani A, Sahebi A, Mazaheri E, Vaziri MH, Masoumi G, Jahangir K. Design and Psychometric Evaluation of Health System Intervention Assessment Tools for Children in Floods. J Edu Health Promot. 2022;Inpress.