

Performing Earthquake Simulators in School, is It Beneficial?

Samad Shams Vahdati¹, Ahmad Shams Vahdati², Elmira Ghaffarzade³

¹Department of Emergency Department, Tabriz University of Medical Science, Tabriz, Iran

²Department of Geography and Urban Planning, Payame Noor University, Tehran, Iran

³Student Research Committee, Tabriz University of Medical Science, Tabriz, Iran

Natural disasters and redoubtable events, such as hurricane, flood, and earthquake, happen all over the world and leave casualties and fatalities in human societies. Earthquake is one of the common cataclysms, especially in Iran (1).

When blokes of the earth's crust slip or move relative to each other parallel to the fracture, the sudden release of energy results in seismic waves that are known as an earthquake (2).

It has been believed that there is a chance of a reduction in losses and destruction in the emergency situation by performing simulation practices and training the community to mitigate the consequences of earthquakes (3).

To gain this purpose, there should be evidence-based and modular practices. Also, the target audience must be selected properly. In recent studies, researchers focused on the preparedness of health care workers by using simulation technology to evaluate their responses while facing the inherent challenges. It has been also recommended that these experimental exercises and training can be performed for students at schools. So far, the effectiveness of these plans is a matter of question (4-6).

Iran is crossed by several major fault lines, and it has historical evidence of catastrophic earthquakes in some areas. In 2012, a formidable earthquake hit the north and northwest areas of Iran and resulted in deaths of hundreds of people at Varzeghan city and most related rural areas. On March 9, 2014, an earthquake with a magnitude of 3.5 on the Richter scale shook around the megacity of Tabriz. Since the north and northeast parts of the city lie within an active earthquake belt, this earthquake resulted in fear of the inhabitants, and 9 students were crushed under the crowd in the mass movements while getting away from school. All of these injured people were transferred to Tabriz Imam Reza Hospital. One of them had a crush injury, and fifth of them suffered from tibial and fibular fractures. It seems that in spite of performing earthquake simulations in

ordinary times, these instructions do not possess enough efficiency, and more comprehensive management has to be done.

Author Contributions: Concept - S.S.V.; Design - S.S.V.; Supervision - A.S.V.; Materials - A.S.V.; Data Collection and/or Processing - E.G.; Analysis and/or Interpretation - E.G.; Literature Review - E.G.; Writer - E.G.; Critical Review - S.S.V.

Conflict of Interest: The authors declared no conflict of interest.

Financial Disclosure: The authors declared that this study has received no financial support.

References

1. 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* 2012; 12: 167-71.
2. Nur A; Eric EH. Poseidon's Horses: Plate Tectonics and Earthquake Storms in the Late Bronze Age Aegean and Eastern Mediterranean. *Journal of Archaeological Science* 2000; 27: 43-63. [\[CrossRef\]](#)
3. Amini Hosseini k, Hosseini M, Izadkha Y, Mansouri B, Shaw T. Main challenges on community-based approaches in earthquake risk reduction: Case study of Tehran, Iran. *International Journal of Disaster Risk Reduction* 2014; 8: 114-24. [\[CrossRef\]](#)
4. Hsu E, Thomas T, Bass E, Whyne D, Kelen G, Green G. Healthcare worker competencies for disaster training. *BMC Medical Education* 2006; 6: 19. [\[CrossRef\]](#)
5. Gillett B, Peckler B, Sinert R, Onkst Ch, Nabors S, Issley S et al. Simulation in a Disaster Drill: Comparison of High-fidelity Simulators versus Trained Actors. *Academic Emergency Medicine* 2008; 15: 1144-51. [\[CrossRef\]](#)
6. Gelkopf M, Ryan P, Cotton S, Berger R. The Impact of "Training the Trainers" Course for Helping Tsunami-Survivor Children on Sri Lankan Disaster Volunteer Workers. *International Journal of Stress Management* 2008; 15: 117-35. [\[CrossRef\]](#)



Correspondence to: Samad Shams Vahdati; Department of Emergency Department, Tabriz University of Medical Science, Tabriz, Iran
Phone: +989141156941 e-mail: sshamsv@gmail.com

Received: 08.07.2014 **Accepted:** 09.07.2014

©Copyright 2014 by Emergency Physicians Association of Turkey - Available online at www.akademikaciltip.com
DOI: 10.5152/jaem.2014.376