

The Role of Disaster Nurse Through School Safety Program for Disaster Preparedness In Elementary School

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Abstract

Disasters are to a great extent inevitable and beyond our control. More than 400 national disasters take place every year, affecting more than 230 million people and causing an average of almost 75,000 deaths annually. Children, those both directly and indirectly involved, are also particularly vulnerable to the far-reaching impact of disasters. Programs designed to meet the specific needs of children receive low priority. Disaster nurse have potential role in pre-disaster planning as a health professional responder and as an advocate for the needs of children. School safety program is a program which meet this specific needs for children, includes training of school search, rescue and first aid, conducting training trauma counseling, supplies to stock and mock drill. Through school safety program as an approach for publicizing awareness expectantly provide dissemination not only for students but also for academician in elementary school.

Keyword: *disaster nurse, school safety program, disaster preparedness for elementary school*

BACKGROUND

Disasters are to a great extent inevitable and beyond our control. More than 400 national disasters take place every year, affecting more than 230 million people and causing an average of almost 75,000 deaths annually. In 2012, 357 natural triggered disasters were registered. However, natural disasters such as storm, flood, earthquake and tsunami, volcanic eruption, etc. still killed a significant number. A total of 9,655 people were killed (annual average 2002-2011: 107,000) and 124.5 million people become victims worldwide. Interestingly, an estimated 50% of victims of natural and man-made (for instance fire, chemical explosion, train accident, terrorist acts, technological accidents, school shootings, hijackings, etc.) disasters are children. In the last five years, more than 15 million children have been affected by man-made disasters alone. The other common fact is that disasters affect the lives and physical, mental, and psychological health of numerous children every year worldwide. Moreover, children are the most vulnerable populations and have unique physiological, psychological, and developmental needs (Berman, Tieffenberg, Petrauskas, 2009).

Several event related school shooting happen in middle or high school at a U.S. For example, a student at a high school in Austin, Texas, in Winston-Salem, North Carolina, shot and wounded another student in the neck. Another shooting is Nevada shooting which also comes almost a year after a gunman killed 26 people at Sandy Hook Elementary School in Newtown, Connecticut, igniting nationwide debate over gun violence and school safety (Shoichet, Watts and Johnston,

2013). Other facts, following the events of September 11th, thousands of children were affected significantly in psychosocial effects. Other recent study found that six months after September 11th, approximately 75,000 New York City public school children in grades 4 through 12 were suffering from Posttraumatic Stress Disorder (PTSD), including children who were not directly affected by the event (Hagan, et al., 2005). In Indonesia, the prevalence of PTSD in children aged 7-13 years in 2 subdistricts of Sumatra 5 years after experiencing a tsunami was 20.6% (Irwanto, Faisal & Zulfa, 2015). Acute and chronic psychological stress reactions of survivors of disasters, especially PTSD are well documented for children and adolescents. Children, those both directly and indirectly involved, are also particularly vulnerable to the far-reaching impact of terrorism and disasters (Mirzamani & Mohammadi, 2007; WHO, 2002).

Despite this fact, programs designed to meet the specific needs of children receive low priority and relief workers often lack the special expertise they need to care for children in emergencies (Berman, Tieffenberg, & Petrauskas, 2009). Disaster nurse as professional have an obligation to advocate for the health, safety, and well-being of infants, children, adolescents, and young adults. They have potential role in pre-disaster planning as a health professional responder and as an advocate for the needs of children. Nurse serve as conduits for dissemination of public health information to students and families and liaison with emergency medical services to plan for a potential mass casualty event and provide care for students in disaster event.

SIGNIFICANCE

The Japan International Cooperation Agency (JICA, 2004) has stated that disasters have a serious impact on educational services not only because of the loss of the lives of teachers and students, but in many other ways such as the sudden interruption of the educational process and psychological disruption of students. Schools are places where a vulnerable segment of society is located. Therefore, it is essential that children and young people are protected as much as possible from the effects of an earthquake.

In the event of a disaster, schooling systems are disrupted, therefore affecting a fundamental right of children, the right to education (UNICEF, 2012). After chi-chi earthquake in 2009, damage ratio on elementary school was counted 19.1% (Ministry of Education of Taiwan, 2009). In 2006, Lembaga Ilmu Pengetahuan Indonesia/LIPI (Indonesian Institute of Science) and UNESCO conducted research in three areas, which are Aceh Besar District, Bengkulu City and Padang City. It was identified that the level of school preparedness was lower compared to that of communities and government apparatus. From that finding, it is identified that schools as a 'public space are mostly vulnerable, this was shown by the 2009 earthquake in West Sumatra in which the extent of damages of schools, particularly classrooms resulting in the disruption of the teaching-learning process. School damage in Indonesia (west sumatra) is counted 2,512 education facilities (Gani, 2009). School facilities and infrastructures have proven to be very vulnerable to disaster in the majority areas of Indonesia. Not to say that, the impact would have been unimaginable might the disaster occurs during school hours. In relation to the effort of managing disaster in Indonesia, the school as an education institution has the responsibility to deliver education. Not only caused by earthquake, other report that school building was damaged by the flood in Colorado (The Ethical Educator, 2013).

It has been demonstrated in many countries that education is one of the best media for making a community prepared for disasters. In other words, one of the best ways of publicizing awareness programs is the integration of these initiatives into children's programs in both preschool and school levels. Various aspects and materials on health, safety and hazards have been incorporated to a greater or lesser extent into the formal school curriculum. The aim of all these initiatives is to increase the knowledge and understanding of children about risk, to teach preparedness and also to demonstrate how to react in times of disasters (Twigg, 2003). To effectively reduce disaster risks for communities, UNICEF and UNESCO recognize the important role education plays in reducing vulnerability (Tang and Gupta, 2012).

Pertaining to this, students can be empowered to protect themselves and promote safer communities through classroom and community learning. As they become older they can learn how to build disaster-resilient buildings, and implement a wide range of preventative measures. They can become enthusiastic and creative champions of disaster prevention, and in the process, transform themselves and their community (Health and Education Department, 2010). Unfortunately, no clear effort has been undertaken to include natural disaster preparedness as a core subject into the school curriculum. Therefore, it was not surprising that educational materials related to natural disaster preparedness are also scarce. Thus, more effort in education of natural disaster preparedness is still required.

COMPARISON

To highlight the impact of disasters, have on children's rights and the importance of reducing disaster risk, UNICEF included this issue on the agenda of a High Level Meeting on International Cooperation for Child Rights in the Asia Pacific Region in October 2010. The resulting Beijing Declaration, signed by 28 countries, made an explicit commitment to promoting child centered disaster risk reduction. In Cote d'Ivoire in 2010, UNICEF worked with the UN Country Team to support the establishment of a national DRR platform to advance the Hyogo Framework for Action. In Kenya, in order to gain a better understanding of disaster risk faced by children, UNICEF led a process to carry out vulnerability and capacity assessment at the district level. In Haiti, UNICEF partnered with Plan International to ensure children's voices and their perspectives of disaster risk were included in the Post Disaster Needs Assessment (PDNA) and subsequent recovery plans (UNICEF, 2012).

The roles of disaster nurse in disaster preparedness are identify disaster risks and populations, particularly vulnerable groups; cooperate with other agencies in developing plans. The other roles are to understand about key terms, concepts, and roles in disaster preparedness. The last role, know about health department's disaster plan and being familiar with communication equipment (Al Thobaity, Plummer, & Williams, 2016). Disaster nurse can work through education of disaster preparedness. The education on school mirrors individual and family disaster prevention, and wider community disaster prevention efforts. The full scope of activities is included as follows:

1. Assessment and planning

Establishing or empowering the school disaster management committee; assessing the risks, hazards, vulnerabilities and capacities; making contingency plans for educational continuity; communicating the plan.

2. Physical and environmental protection – structural safety maintenance, nonstructural mitigation; local infrastructure and environmental mitigation; fire safety.

3. Response capacity development – standard operating procedures; response skills and organization; response provisions.
4. Practicing, monitoring, and improving – holding simulation drills to practice, reflect upon and update your plan; monitoring indicators for school disaster management

Disaster preparedness efforts also stated about identify the risk of hazard; include the identification of possible health scenarios based on the probability of hazards and vulnerability of the population as a basis for creating a disaster plan. There is increasing evidence that students of all ages can actively study and participate in school safety measures, and also work with teachers and other adults in the community towards minimizing risk before, during and after disaster events. Government can effectively reach out to communities and protect them by focusing on schools in Disaster Risk Reduction (DRR) initiatives to achieve greater resilience to disasters (Rajabali, 2013). Pakistan government also has developed mechanisms, at governmental and non-governmental levels, to manage and mitigate the disastrous effects. Two important steps that should be taken as priorities are: construction of safe schools to protect children in the case of emergencies like fire or earthquake and reduction of the risks of accidents caused by open sewers and live wires during the rainy season (Murtaza, 2013).

IMPLICATION

Disaster nurse must understand the content and location of the disaster plan including the planning and provision of training for nurses, such as disaster drills, cooperate with other agencies in developing plans to decrease the morbidity and mortality rates and to reduce the potential effects of disaster (Al Thobaity, Plummer, & Williams, 2016). Disaster preparedness include development early warning system and evacuation plan to decrease potential loss of life and physical damage; public education and training of designed public and private sector official; training of emergency response personal; collaborative organization agreement and service delivery standard; strengthening local disaster preparedness by supporting community-based activities. Local disaster preparedness includes teaching first aid and cardiopulmonary resuscitation. Education and preparation to minimize risk conducted by mass media, school program and health fairs (Keeney, et al., 2001).

School Safety Program, which is a primary strategy are to help inform, persuade, and integrate the issues of safety to create safety schools. The goal of the program is to promote a culture of disaster preparedness in the school community. Because it is a program then it will need multidisciplinary collaboration, for example from police, fire fighter, etc.

The instructions as follows (HSEM, 2014):

1. Training of School Search, rescue, and first aid

Teachers, staff and even students should be taught first aid, as uninjured survivors may be the only help for some time after a disaster. Such training should include identifying necessary emergency medical service and proper use of basic equipment.

2. Training trauma Counseling

Nurses give teacher training about trauma post disaster. Teachers need to learn how disasters affect children and how to respond to children's questions and anxieties. They need to help children understand potential dangers in their environment such as landslides, floods, falling objects like trees and high-voltage cables, and airborne hazards propelled by high winds. Teachers should also be able

to recognize in their students the warning signs of suicide and posttraumatic stress disorder (PTSD).

3. Planning to be disseminated to everyone in the School.

Alert and evacuation: Before an emergency occurs, contingency plans should be clearly spelled out. Disaster prevention/response plans targeted at children are important. Signs of evacuation routes should be illustrated so that children may clearly understand where to go. Plans to shelter-in-place should be made and communicated to all employees. Teachers and staff should be trained to evacuate students and turn off utilities.

4. Supplies to Stock

The school should keep the following items on hand: medical, food and water, and other general supplies:

- a) Medical: bandages and antiseptic, splints, oxygen, oral airways, suction, cervical spine stabilization, and anaphylaxis kit with epinephrine.
- b) Food and water: Ready-to-eat foods that do not require refrigerator and one gallon of bottled water per person should be stored at the shelter-in-place. If bottled water runs out, water in a toilet tank may be boiled and consumed. Food rations for an extended disaster situation should include a staple such as cereal, a source of concentrated energy (fat), and a source of concentrated protein.
- c) General: First aid kits; flashlights, battery-powered radio and extra batteries; duct tape and scissors; plastic sheeting and towels; stove and fuel for boiling water, a working telephone.

5. Mock Drill

Drills to be carried out twice a year and should be hazard specific. The study shows that children who have been adequately prepared are likely to suffer only minimal and short-term reactions to disaster. Self-efficacy, social support, and intellectual understanding will help adolescents cope. Preparedness through practice, especially using drills, helps children know how to respond to various disasters.

CONCLUSION

School safety program is a program which meet the specific needs for children, includes training of school search, rescue and first aid, conducting training trauma counseling, supplies to stock and mock drill. Through school safety program as an approach for publicizing awareness expectantly provide dissemination not only for students but also for academician in elementary school.

REFERENCES

- Al Thobaity, A., Plummer, V., & Williams, B. 2016. What are the most common domains of the core competencies of disaster nursing? A scoping review. *International Emergency Nursing*. DOI: <http://dx.doi.org/10.1016/j.ienj.2016.10.003>
- Berman, S., Tieffenberg, J. A., & Petrauskas, B. J. 2009. *Pediatric Education in Disasters Manual*. American Academi of Pediatric. Denver-Colorado USA.
- Gani, H.S. 2009. Workshop for Evaluation of Earthquake Emergency Management in West Sumatra, Padang 22-24 December 2009

- Hagan, J.F., The Committee on Psychosocial Aspects of Child and Family Health, and the Task Force on Terrorism. 2005. Psychosocial Implications of Disaster or Terrorism on Children: A Guide for the Pediatrician. *Pediatrics* Vol. 116 No. 3, pp. 787.
- Health and Education Department International Finance Corporation. 2010. *Disaster and Emergency Preparedness: Activity Guide for K to 6th Grade Teachers*.
- Homeland Security and Emergency Management (HSEM). 2014. Comprehensive School Safety Guide. Retrieved from <http://www.nfpa.org/-/media/files/public.../schools/minnesotaschool-safety-guide.pdf>
- Irwanto, Faisal & Zulfa, H. 2015. Posttraumatic Stress Disorder among Indonesian Children 5 Years After The Tsunami. *Southeast Asian Journal of Tropical Medicine Public Health*. Vol.46(5): 918-23.
- Japan International Cooperation Agency (JICA). 2004, "Tu" rkiye'de dog" al afetler konulu u" lkestrateji raporu (Country strategic report on natural disaster in Turkey), Ankara.
- Keeney, G. B., Paton, D., & Johnston, D. 2001, "Disaster and communities: vulnerability, resilience and preparedness", *Disaster Prevention and Management*, Vol. 10, pp. 270-277.
- LIPI. 2006. Kajian Kesiapsiagaan Masyarakat dalam Mengantisipasi Bencana Gempa Bumi dan Tsunami di Indonesia, (Assessing and recognizing community preparedness in natural disaster in Indonesia).
- Ministry of Education Taiwan. 2009. *Interim Damage Report*. Taipei, Taiwan.
- Mirzamani, S.M., Mohammadi, M. R. 2007. Psychological Aspects of Disaster. *Iranian Journal Psychiatry* 2, pp. 1-12. Retrieved from <http://journals.tums.ac.ir/> on Tuesday, January 18, 2014
- Murtaza, A. 2013. PAKISTAN: Children can play an important role in disaster preparedness. Asian Human Right Commission.
- Rajabali, F. 2013. Role of Education and Schools in Disaster Risk Reduction. Retrieved from <http://www.eldis.org/go/topics/resource-guides/climate-change/key-issues/children/-climate-change-and-disasters/role-of-education-and-schools-in-disaster-risk-reduction#.Urrm8PQW1Qg> on December 25, 2013
- Shoichet, C.E., Watts, A., Johnston, C. 2013. Nevada school shooting: teacher killed, two student wounded. Retrieved from <http://edition.cnn.com/2013/10/21/justice/nevada-middle-school-shooting/>
- The Ethical Educator. 2013. Strategies and Stories to Lead and Succeed: Colorado School Districts Show Resilience. Retrieved from <http://www.aasaconnect.com/index.php?bid=34&id=15>
- Tang, Gupta. 2012. Disaster Risk Reduction and Education.
- Twigg, J. 2003. Disaster risk reduction: Mitigation and preparedness in development and emergency programming.
- UNICEF. 2012. UNICEF and Disaster Risk Reduction. Retrieved from http://www.unicef.org/files/DDR_final