 ISBN 978-602-60569-3-1

DISASTER PREPAREDNESS AT PUBLIC HEALTH CENTER (PHC) BY SCORING ANALYSIS OF GENERAL ASPECTS, HEALTH CARE, SURVEILLANCE, ENVIRONMENTAL SANITATION AND LOGISTICS

Irma Prasetyowati, Yennike Tri Herawati, Pudjo Wahjudi
Faculty of Public Health, University of Jember, Kalimantan 37, Jember 68111, Indonesia, email: irma_prasetyowati.fkm@unej.ac.id

INTRODUCTION

Preparedness according to the Constitution of Indonesia No. 24 2007 on Disaster Management is a series of activities done in order to anticipate disasters through the organization as well as through appropriate and useful activities. The disaster management in Indonesia adopts the paradigm of risk reduction, disaster management which aims to improve the ability of communities to manage and reduce the risk of disaster to society the disaster subjects. This prevention is focused on pre-disaster phase to minimize the risks (BNPB, 2009). Jember is located at the altitude 0-3330 meters above the sea level. Its area with the altitude of 100-500 meters above the sea level is the largest area, 1240.77 km² or 37.68% of total area of Jember. Meanwhile, the narrowest area is the area with a height of over 2,000 meters above the sea level with 31, 34 km² or 0.95% of the area of Jember. Jember has a topographic character of fertile plains canyon in the Central and South parts and is surrounded by mountains that extends to the boarder of East and West. The area of South West has a plateau with a height of 0-25 meters above the sea level, while the Northeast area, which borders with Bondowoso, and the Southeast area bordering Banyuwangi has over 1,000 meters above the sea level (PPSP 2012).

Based on the geographical conditions, the potential disasters that may occur are such as, floods, landslides and tsunami. The potential disaster is influenced by Jember topography consisting of plains, mountains, and beaches. The data from Jember Health Department in 2011 showed that there were 21 of 31 Districts potentially disaster may happen.

When the disaster happens, it causes human casualties and property losses. The human casualties cause insecurity to the health status of affected people and communities living around the disaster area. Therefore, the acceleration of the handling of the victim is not only necessary in emergency response, but also it should be emphasized on the prepared efforts carried out as early as possible, so that the number of casualties can be minimized. Preparedness is a shared responsibility of stakeholders, central government, local governments, communities and the business world. The role has been written in constitution No. 24 2007 about Disaster Management.

One of the responsible stakeholders in implementing preparedness activities is Public Health Center (PHC). PHC functions as the central driver of health insight, family and community empowerment center, and the first level health care center which is qualified and affordable. Especially, on the third function, it includes aspects of public health and personal health services including handling the emergency patient in the community. (Community Health, Department of Health, 2005).

Method

This research is a descriptive study. Descriptive research is a research conducted what aims to describe a situation objectively. The research was conducted in Jember in April-June 2015. The objects of research were taken from 7 PHC located in Jember, such as PHC Sbri, Arjs, Tprj, Bsli, Myng, Jbk, and Pnt. Data were obtained using questionnaires through interviews in the 7 public health centers and the Department of Health.

In addition to the primary data, the research used secondary data obtained from the Department of Health Jember. The data collection method used the documentation and interviews. The analysis data were conducted by classifying the data in accordance to the aspects of preparedness, and then scored with a value 1 for “yes” and 0 for “no”, and percentage indicators were fulfilled, the percentage was categorized according to the standards that have been made.

1. Good (G): the percentage of 76% -100%
2. Enough (E): the percentage of 56% -75%
3. Less (L): the percentage of 40% -55% (Arikunto, 2006).

RESULTS AND DISCUSSION

Based on the table 1, it is known that the average of emergency preparedness of the public health

centers in Jember categorized as *Enough* in the PHC of Arjs, Tprj, Myng, Jbk, and Pnt, while the preparedness still categorized as *Less* were PHC of Bsli and Sbri.

understand the conditions in the disaster environment, so they could make preparedness plans.

The third indicator was the contingent plan.The contingency plan was essential for prevention and reduction of the risks from disasters, including the first settings, so they could make plans or develop strategies and procedures in response to potential crises or emergencies that occurred including developing scenarios (to anticipate the crises),

The second indicator was the map of disaster prone areas. Map of disaster-prone areas was actually very useful for decision makers, especially in anticipating the disasters. Society and the government could know and determining the responsibility of all actors who would be involved to identify the role and resources, the process of data collection and dissemination of information, and setting every actor, so it was ready when needed, and determining the needs in order to achieve the goals. The contingency planning was an important part of the overall preparedness program and needed to be developed for each type of disasters.

Table 1. Scoring Analysis Of General Aspects, Health Care, Surveillance, Environmental Sanitation And Logistics

	Genereal	Health Services	Surveillance	Environmental Health	Logistic	Average
Sbri	33% L	74% E	67% E	29% L	66% E	53% (Less)
Arjs	67% E	74% E	67% E	41% L	65% E	62%(Enough)
Tprj	67% E	70% E	67% E	35% L	61% E	60%(Enough)
Bsli	0% L	70% E	67% E	6% L	51% E	38%(Very Less)
Myng	67% E	70% E	100% G	23% L	66% E	65% (Enough)
Jbk	100% G	63% E	100% G	35% L	53% E	70%(Enough)
Pnt	33% SK	85% C	100% G	52% L	72% E	68%(Enough)

Preparedness health care consisted of 4 main indicators, namely the aspect of infrastructure, human resources, management, and external aspects, socialization to the public about the possibility of disaster. PHC as the first health care in disaster areas became a very important role, especially in organizing the health services during the disaster. PHC service focused on the searching and rescuing the victims who required both medical personnel (Human Resource) or equipments (Pan American Health Organization, 2000).

Preparedness in the surveillance field consisted of three indicators, such as observing and recording of disasters that have occurred, identifying disaster prone villages, and having a book Juknis Epidemiological Surveillance of Infectious Diseases, Food Poisoning, and Disasters. According to the WHO in the Ministry of Health No. 1116 / Menkes / SK / VIII / 2003, surveillance is the process of collecting, processing, analyzing, and interpreting the data systematically and continuously as well as the distributing the information to units that needed to be able to take action. It was hoped that the activities that have been carried out to provide information to the unit requiring primarily related agency or institution to determine disaster management policies and continuously be carried out not only when the disaster occurred.

Preparedness of environmental health consisted of two main indicators based on the aspects of the refugee camps and resource. The preparedness in the field of environmental health was very important dealing with how the handling of people in displacement was. Patterns of displacement vary depending on the types of disaster, evacuation time and effort preparedness. Any existing patterns of displacement caused by the disaster still caused health problem. The health problems originated from the environment and lack of clean water that resulted to the bad of personal hygiene and environmental sanitation that could cause development of some infectious diseases.

Temporary displacement camps often created an area with high population, while the suitable services might not exist in there. The shortage of water and basic sanitation facilities lowered the existing degree of hygiene and increased the risk of infectious diseases. Selecting displacement camps was crucial to ensure that the camps had access for water supply and other reliably environmental health (Pan American Health Organization, 2000). Generally, public health centers in the field of environmental sanitation were categorized as *Very Less* which could lead to the outbreaks of disease such as the unavailability of landfills that caused scattered garbage in shelters and became a place for

vectors (flies, rats, mosquitoes) that could transmit diseases to humans like diarrhea, cholera and thypus. This could happen if one of the vectors derived from the waste to the food (foodborne disease), and the unavailability of emergent WC was also a problem because many infectious diseases spread through food and drink contaminated with feces. Thus, the efforts should be made to ensure disposal of sanitary excreta and to provide several environmental sanitation materials used to ensure the availability of clean water used by the public properly.

Logistics preparedness consisted of 9 main indicators such as logistics for vaccines, diarrhea, dengue fever, respiratory, typhoid, skin diseases, eye diseases, weaning food toddlers and general logistics. Generally, PHCs were needed in efforts to improve public health service, especially in the event of disasters. Public health center should have a supply logistics, especially in the supply of proper medicines. Preparedness of medicines in disaster situations was one of the most important supporting elements in health care at the time of the disaster. The basic factor that allowed the burst of the disease was the presence of many populations happened simultaneously at the same time as the limited spaces of basic needs for health, in addition to malnutrition among the victims were also frequently found, and stress and fatigue contributed to lower the endurance of body which was so easily infected with these diseases (Purwana, 2013). This was in line with the Technical Guidelines for Health Prevention of Disasters from the Ministry of Health of the Republic of Indonesia that the supply and distribution of medicines and medical supplies in disasters basically would establish new facilities and infrastructure, but using the available infrastructures, only the intensity of the work enhanced by empowering resource. Medication Supplies were available in PHC which could be directly utilized to serve the victims. If there was a deficiency, it might request additional enhancements to the Department of Health in town/city.

CONCLUSION

Generally, the disaster preparedness of Public Health Centers (PHC) in Jember categorized as *Enough*, were PHC of Arjs, Tprj, Myng, Jbk, and Pnt, while the preparedness categorized as *Poor* were PHC of Bsli and Sbri.

PHC categorized as still *Less* was PHC Sbri which it could improve the preparedness in the public field to make a map of disaster-prone areas and contingencies, in the field of environmental health by providing training PPGD for environmental health personnel and completing some of the resources that have not occupied such as PAC, chlorine, aquatab, mist blower, AICON, plastic bags, drum/ cans, emergency toilets, disinfectant and generators. PHC of Bsli could improve the preparedness in the field of public by making organizational and administrative disaster management team, creating a map disaster-prone areas, and making the contingency plan, in the field of environmental health by providing displacement camps in the PHC areas completed with a source of clean water, means of sewage and liquid waste, and landfills, and training PPGD for health personnel of environment and completing some of the resources that have not been available such as PAC, chlorine, aquatab, mist blowers, AICON, plastic bags, drum / cans, emergency toilets, disinfectant and generators.

REFERENCES

1. Undang-Undang RI Nomor 24 Tahun 2007 Tentang Penanggulangan Bencana.
2. Badan Nasional Penanggulangan Bencana.2009. *Rencana Nasional Penanganan Bencana 2010-2014*. Jakarta: BNPB
3. Ditjen Binkesmas Depkes, 2005. *Pedoman Puskesmas dalam Penanggulangan Bencana*, Jakarta.
4. Pan American Health Organization. 2006. *Bencana Alam Perlindungan Kesehatan Masyarakat*. Jakarta: EGC.
5. Keputusan Menteri Kesehatan Republik Indonesia Nomor 1116/Menkes/Sk/Viii/2003 Tentang Pedoman Penyelenggaraan Sistem Surveilans Epidemiologi Kesehatan.
6. Kementerian Kesehatan. 2011. *Pedoman Teknis Penanggulanga Krisis Kesehatan Akibat Bencana. Jakarta*: Kementerian Kesehatan.
7. Purwana, Rachmadi. 2013. *Manajemen Kedaruratan Kesehatan Lingkungan dalam Kejadian Bencana*. Jakarta: Rajawali Pers.