FUNCTIONAL CAPACITY OF PRIMARY HEALTH CARE CENTERS IN SAMARINDA, EAST KALIMANTAN, INDONESIA

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ABSTRACT

The qualitative descriptive design was utilized to determine the perception of healthcare providers about the functional capacity of the Primary Health Care (PHC) centers in Samarinda, East Kalimantan, Indonesia. A survey questionnaire was prepared and distributed to different healthcare providers in the 24 PHC centers in Samarinda which includes physicians, nurses, midwives, dentists, nutritionists, laboratory technicians and sanitary inspectors. The mean, standard deviation, frequency, percentage, and ANOVA were employed for data analysis. The study assessed that majority of the healthcare providers are nurses and have been working for 1-5 years. As to the disaster preparedness of Primary Health Care centers when measured by its functional capacity is "low" or "inadequate" along the five major areas namely: organization of Disaster Committee and an Emergency Operations Center (EOC), Operational plan for internal or/and external disasters, plan for the operation, preventive maintenance, and restoration of critical services, and availability of medicines, supplies, instruments, and other equipment for use in emergency. In general healthcare providers' assessment of PHCs readiness to face disaster as measured by functional capacity was "low," which is classified under "Level C" based on the WHO Hospital Safety Index. This is interpreted as "Urgent Intervention is needed." ANOVA test reveals a significant difference in the level of functional capacity of PHC centers in terms of job position and length of service. The inadequacy in the functional capacity of the Primary Health Care centers in Samarinda, East Kalimantan, Indonesia can be given urgent solution through an integrated approach that includes international, national and local health government officials, emergency coordinating bodies and community representatives.

Keywords: *Functional capacity, primary health care, disaster preparedness*

INTRODUCTION

Disasters destroy communities. People's lives, health, and safety are placed in a dangerous state during disaster situations. Due to the unexpected nature of disasters, every community must be ready. Everyone must also be able to act in response to a disaster and be able to recover from its effects. This calls for an action at the community level. Thus, the use of a functional Primary Health Care (PHC) system could be a helpful approach in times of these calamities. The most commonly known disaster that surprisingly occurs and that has affected millions of people around the world is hydrological in nature. It has caused property damage, loss of animal and human life and interruption in activities related to health services (Guha-Sapir, et al. 2004). One of the countries considered most commonly affected by hydrological disasters is Indonesia. In this country, for example, it was reported that floods hit the East Kalimantan provincial capital of Samarinda in 2008 and have swept at least six villages (Antara News, 2008). In Kalimantan province also, flood in August 2014 has claimed lives and houses have been underwater, with people using school buildings as temporary housing (Disaster Management Agency, 2014). In these affected communities, primary health care approach helps to ensure that the quality health care is accessible, available and affordable (World Health Organization, 2014). Functional capacity of a hospital or healthcare facility is described by the World Health Organization's Pan American Health Organization (2008). It is the "level by which staffs are prepared for a major emergency and disasters and how a disaster plan has been implemented." A Hospital Safety Index has also been developed by the Pan American Health Organization. This index helps to assess the likelihood of a hospital or health facility to continue its operation in disaster situations. This is a part of the said organization's 'safe hospitals' projects to support existing health facilities, especially facilities delivering primary health care (PHC). The effects of disasters on the delivery of primary health care services, however, have not been explored to a greater extent. Even with the essential role of PHC facilities in disaster planning, there were no collected documents about the past effects of disasters on the capacity of PHCs to function. In other words, there is a scarcity of assessing the level of primary health care system preparedness, as determined by its functional capacity. This specifically applies in

Indonesia. A study to determine the functional capacity of PHC facilities in Indonesia to respond to potential disasters is necessary. Such information on PHCs functional capacity is fundamental. It will be used for disaster planning, government policy formulation and resource management that can be in effect in time to come.

Conceptual Framework

The following figure presents the research paradigm showing the relationships of input, process and output model for better analysis and understanding of the study.

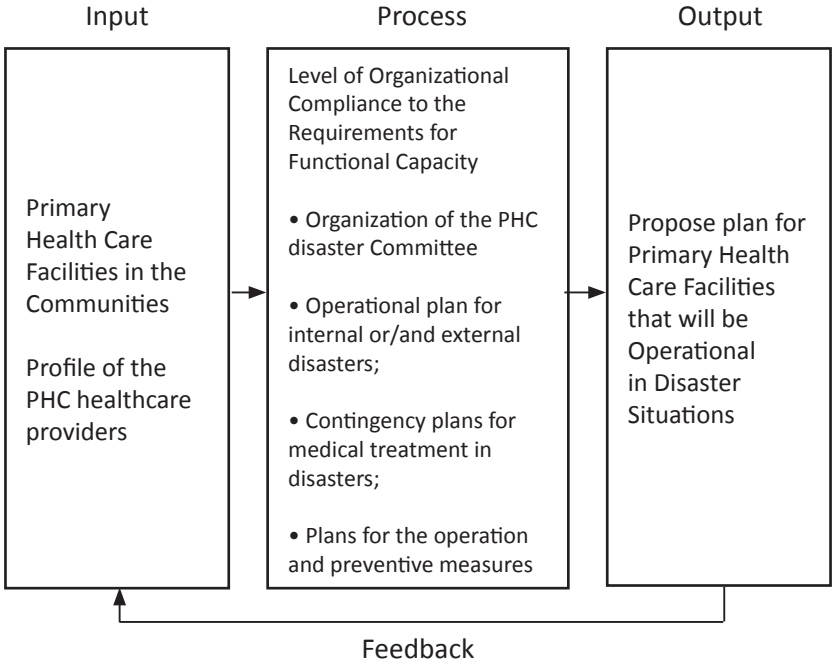

Figure 1. Conceptual Paradigm of the Study

As shown in Figure 1, the healthcare facility that is subjected to the evaluation of its compliance with the requirements of functional capacity is the Primary health Care Center. The level of organizational compliance of PHCs is determined by looking into how the different components of functional capacity are implemented as perceived by the healthcare

providers. This perception can be influenced by the healthcare providers' job position and length of service or experience. Compliance with the requirements for functional capacity will be a basis for a proposed plan for safe PHC facilities that are operational in disaster situations.

Statement of the Problem

The purpose of this study was to determine the perception of healthcare providers about the functional capacity of the Primary Health Care (PHC) centers in Samarinda, East Kalimantan, Indonesia to respond to potential disasters.

Specifically, the study aimed to provide answers to the following questions:

1. What is the profile of the healthcare providers regarding:
    1.1. Job position;
    1.2. The length of service as a healthcare provider?

2. What is the level of functional capacity of the primary health care centers in the following areas:
    2.1. Organization of Disaster Committee and the Emergency Operations Center;
    2.2. Operational plan for internal or/and external disasters;
    2.3. Contingency plans for medical treatment in disaster;
    2.4. Plans for the operation, preventive maintenance, and restoration of critical services; and
    2.5. Availability of medicine, instruments, and other equipment for use in the emergency?

3. Are there significant differences in the level of functional capacity of primary health care centers as perceived by the healthcare providers when grouped according to their profile variables?

4. What action plan is proposed to improve the functional capacity of primary health care facilities in Samarinda, East Kalimantan, Indonesia?

METHODOLOGY

Research Design

The study made use of the quantitative descriptive design to determine the perception of healthcare providers about the functional capacity of the Primary Health Care (PHC) centers in Samarinda, East Kalimantan, Indonesia.

Participants of the Study

The population for this study included healthcare providers working in the different primary health care centers (Puskesmas) in Samarinda, East Kalimantan, Indonesia. Healthcare providers in PHC are physicians, nurses, midwives, dentists, nutritionists, laboratory technicians, and sanitary inspectors. Complete or total enumeration sampling was used. A total of 450 survey questionnaires were prepared and distributed to different healthcare providers in the 24 PHC centers in Samarinda. A total of 432 survey questionnaires were retrieved from the healthcare providers who participated in the survey, giving a response rate of 96%.

Instrumentation

A standardized survey questionnaire was used to collect data for the study. The questionnaire included the functional capacity component of the Hospital Safety Index (HSI) from the World Health Organization (Pan American Health Organization, 2008). The Hospital Safety Index is an internationally standardized comparison.

Functional capacity consists of 61 elements that are grouped into five sub-modules according to the HSI, as follows:

1. Organization of the Disaster Committee and the Emergency Operations Center;

2. Operational plan for internal or/and external disasters;

3. Contingency plans for medical treatment in disasters;

4. Plans for the operation, preventive maintenance, and restoration of critical services;

5. Availability of medicines, supplies, instruments, and other equipment for use in the emergency.

Data Gathering Procedure

The study was carried out and conducted with integrity and in line with generally accepted ethical principles and approved by the Graduate School Faculty of St. Paul University Philippines. Also, this study was performed following WHO's recommendation (Pan American Health Organization, 2008) that names and location of participating PHCs are to be treated as confidential and not to be discussed with outside parties.

Once the study was approved, a letter of request to conduct the survey was personally brought by the researcher to the Head of District health office-Kepala Dinas Kesehatan Pemerinta Kota Samarinda. Moreover, the researcher personally requested permission from the Office of Research-Kepala Badan Kesatuan Bangsa dan Politik Pemerintah Kota Samarinda. After receiving the approval of the request, the researcher personally visited the different Primary Health Care Centers or "Puskesmas" and personally handed the questionnaires to the various healthcare providers and assured them their anonymity.

Before the participants answered the survey, the researcher gave an explanation regarding the purpose and nature of the study; she also gave instructions on how to respond to the questionnaire. In the study, completion of the survey by the participants indicated their consent to participate in the study. To ensure retrieval of the filled-up questionnaires, the researcher personally retrieved the filled-up questionnaires from the participants. After the retrieval of the filled-up questionnaires, the data were organized and interpreted using statistical measures by a professional statistician.

Data Analysis

The descriptive statistics used to analyze the data include means, standard deviations, frequencies, and percentages. Analysis of Variance (ANOVA) was used to determine significant differences in the level of perceived functional capacity of primary health care centers when healthcare providers are grouped according to their profile variables.

RESULTS AND DISCUSSION

On Participants' Profile

Most or 29.17% are nurses, followed by midwives (19.68%) and medical doctors (12.73%). Regarding the length of service, majority or 59.03% of the healthcare providers working in the PHC centers of Samarinda, East Kalimantan, Indonesia are beginners or new to the service. Majority or 59.03% of the participants have served for 1-5 years, followed by those who served for 6-10 years (12.04%). Around 29% of the participants have served for 11 years or more.

On the Level of Functional Capacity of the Primary Health Care Centers

Result revealed that there is "inadequacy" in the organization of Disaster Committee and an Emergency Operations Center (EOC); operational plan for internal or/and external disasters; contingency plan for medical treatment in disasters; plan for the operation, preventive maintenance, and restoration of critical services; and availability of medicines, supplies, instruments, and other equipment for use in emergency.

In general, healthcare providers' assessment of PHCs readiness to face disaster as measured by functional capacity was "low" as shown by the overall mean level of 0.27, which is classified under "level C" according to WHO Hospital Safety Index. This is interpreted as "Urgent Intervention" is needed. Current safety level regarding the functional capacity is "inadequate."

On Significant Differences in the Level of Functional Capacity of Primary Health Care Centers as Perceived by the Healthcare Providers when Grouped according to their Profile Variables

ANOVA test showed significant difference in the level of functional capacity of primary health care centers as perceived by the health providers when grouped according to their job position in the following major categories: organization of Disaster Committee and Emergency Operations Center (p=0.042), contingency plans for medical treatment in disasters (p=0.007), plans for the operation, preventive maintenance (p=0.002), and availability of medicine, supplies, etc. (p=0.002).

ANOVA test revealed significant difference in the level of functional capacity of primary health care centers as perceived by the healthcare providers in the major category of availability of medicine, supplies, etc. (p=0.039) when grouped according to their length of service.

Action Plan

Based on the findings of this study, the need for strengthening the functional capacity during and after the disaster of Primary Health Care centers in Samarinda, East Kalimantan, Indonesia is urgent. An action plan is proposed addressing the major areas of functional capacity which were perceived to be inadequate. This following will be the focus of improvement and will be considered as the main goals of the plan:

a. Organize a Disaster Committee and an Emergency Operations Center.
b. Develop an operational plan for internal or/and external disasters.
c. Develop contingency plans for medical treatment in the disaster.
d. Develop plans for the operation, preventive maintenance, and restoration of critical services.
e. Provide an available supply of medicine, instruments, and other equipment for use in an emergency.

CONCLUSION

From the findings of the study, the following conclusions are hereby drawn:

The functional capacity of the Primary Health Care centers in Samarinda, East Kalimantan, Indonesia to respond to the disaster is "low" as perceived by the healthcare providers. Therefore, the said Primary Health Care centers are inadequate to protect the lives of community and staff during and after a disaster.

The "inadequacy" in the functional capacity of the Primary Health Care centers in Samarinda, East Kalimantan, Indonesia can be given urgent solution through an integrated approach that includes international, national and local health government officials, emergency coordinating bodies and community representatives.

RECOMMENDATIONS

Based on the findings and conclusion of the study, the following recommendations are derived:

The Ministry of Health may be the lead agency of the national health sector in conducting a multisectoral approach involving international, national and local levels in reducing the public health impact of emergencies and disasters. Other agencies include sectors such as law and order, transport and communications, water, electricity and public works, search and rescue, fire services and social services. Assistance will come from international organizations like World Health Organization, United Nations Development Program, International Red Cross or Red Crescent Societies, health-related non-governmental organizations, and Professional Associations. These agencies will provide necessary support to meet requirements of PHC centers capacity to function and become a safe facility during and after disasters by assisting in: Organizing a Disaster Committee and Emergency Operations Center; developing an operational plan for internal or/and external disasters; developing contingency plans for medical treatment in the disaster; developing plans for the operation, preventive maintenance, and restoration of critical services, and providing

an available supply of medicine, instruments, and other equipment for use in the emergency.

Community Officials and Local organizations need to create a community-focused approach to disaster preparedness and capacity building. Partnerships among local public environmental health, disaster preparedness and response programs, and the communities they serve have great potential to build capacity for communities to function in disasters. The consultation may be held with the relevant departments in the Ministry of Health, Medical Council, and professional societies in Indonesia responsible for capacity building.

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