Original Article

Impact of Community Stress on Community Empowerment Processes in Preventing Daily Emergency in Volcanic Area

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ABSTRACT

Volcanic disasters have a psychological impact on society. Community stress must be anticipated and overcome as soon as possible so as not to cause greater losses. Community empowerment based on the experience of dealing with and dealing with disasters, managing risks, reducing, and recovering from disasters is an adaptive community coping. The purpose was to determine the effect of community stress on the community empowerment process in preventing daily emergencies in the volcanic disaster area. This study used an analytic design through a cross-sectional approach. A sample of 165 people in Hargobinangun Village, Pakem District, Sleman Regency, Yogyakarta, Indonesia, was taken using purposive sampling. The sample criteria were adults who live in the village and can read and write. Community stress and community empowerment were taken using a questionnaire from July until August 2020. Data analysis used T-test. Most communities have low stress for the threat of disaster but have high stress for attachment to the region. Community stress influence on community empowerment process (p-value 0.027). Community stress will affect the degree of reaction and have an impact on the community empowerment process in preventing daily emergencies. Further research is recommended to identify specific factors that cause stress in communities in volcano disaster areas.

Keywords: *Community Stress, Community Empowerment, Daily Emergencies, Volcanic Disaster*

INTRODUCTION

Volcanic natural disasters trigger emergency problems in the field (pre-hospital) that can cause death; trauma; and destruction[1,2]. Disaster situations will cause emergency problems, both mild and complex levels. The increasing number of victims who die and experience disabilities in emergency events as a result of handling victims that are less than optimal or incorrectly creates other problems [3]. Daily emergency conditions must be anticipated and handled as quickly as possible so as not to cause greater losses [4]. Most victims of natural disasters have experienced Post Traumatic Stress Disorder (15-20%) [5], and are unable to take proper action on how to treat their problems. Increasing the capacity of health emergency preparedness is one of the indicators of the target in the Sustainable Development Goals (SDGs), which is to strengthen the capacity of all countries. This is also in line with the 2015-2030 Disaster Risk Reduction Framework regarding the target of

reducing the number of deaths caused by disasters [3].

Volcanic disasters have a psychological or mental health impact on individuals and society [6,7]. Specific stressors that affect post-disaster mental health are bereavement due to loss of family, injury to self or family members, life threat, property damage, financial loss, community destruction, and displacement or displacement [6]. "Do people who live in areas prone to volcanic disasters experience stress? What are the community's efforts to anticipate natural disasters that may recur?". The impact of disasters can be neutralized by increasing the community's ability to adapt to the environment [8]. Community resilience is needed to deal with this situation [9,10]. Referring to the Community as Partner model, the community must be able to recognize and help themselves in dealing with health problems [11]. Community stress will affect the resilience of the community in dealing with and preventing daily emergency conditions due to the disasters they experience. Disaster resilience at the community level as an effort to reduce disaster risk [12]. The ability of communities to anticipate, prepare, respond, and recover quickly from the impact of disasters is critical.

Previous studies stated that community empowerment based on experience in dealing with and dealing with disasters with a focus on being able to manage risks, reduce the impact of risks, or recover from disasters or conditions of dependence on other parties needs to be improved [13]. Community independence in daily emergency prevention efforts can be assessed, whether the community could carry out primary, secondary, or tertiary prevention. In the empowerment process, all community members should be involved in the self-care process, when experiencing vulnerable conditions, especially in preventing daily emergencies in disaster situations. The process of empowerment through learning in the community, which includes raising awareness, gaining knowledge, learning from the experiences of others, and finding new perspectives on everyday emergency prevention efforts in order to avoid worse conditions. Through this empowerment process, it is hoped that each element of the community will jointly form an adaptive coping mechanism to against stressors due to the volcanic disaster, so that the community is able

to identify the needs of their community based on the level of community vulnerability, which in the end the community can determine for themselves how much capacity, needs and assistance are needed in an emergency situation due to a disaster [11]. Adaptive community coping based on the needs and involvement of community members to care for their own community will make them achieve preparedness in responding to stressors that may arise again [13,14]. In the long term, it is hoped that it will form an independent community to overcome the stressors encountered, especially in the prevention of daily emergencies in volcanic areas.

The purpose of this study was to determine the effect of community stress on the community empowerment process in preventing daily emergencies in the volcanic disaster area.

METHOD

Study Design

This study used an analytic design through a cross-sectional approach.

Population and Sample

A sample of 165 people in Hargobinangun Village, Pakem District, Sleman Regency, Yogyakarta, Indonesia was taken using purposive sampling. Sample criteria were adult, live in the village, can read and write. Data collection time was July until August 2020.

Variable

Variables included Community stress and community empowerment were taken using a questionnaire. Community stress data consists of five indicators, involve disaster threat; attachment to territory; economic limitations; past trauma; and helplessness. Community empowerment data has four indicators, involve increasing awareness; gaining knowledge; learning from experience; and finding new perspectives.

Instrument

The instrument was a closed questionnaire that was compiled by researchers and has been tested for validity (0.582; 0.606) and reliability (0.847; 0.739). The questionnaire used a Likert scale, which involved strongly agree (1); agree (2); undecided (3); disagree (4);

and strongly disagree (5).

Data Analysis

T-test was used to analyse the significant effect of community stress on the community empowerment process in preventing daily emergencies in the volcanic disaster area. The data analysis was executed by using SPSS Statistics Version 25.0.

Ethical Clearance

An ethical clearance letter was gained from the Health Research Ethics Commission of Health, Ministry of Health, Surabaya number: EA/331/KEPK-Poltekkes Sby/V/2020 at 20th July 2020.

RESULTS

Table 1. Data Demographic of Respondents

Indicator	n	%
1. Age (years)		
a. < 20	37	22,4
b. 20-60	110	66,7
c. > 60	18	10,9
2. Gender		
a. Male	80	48,5
b. Female	85	51,5
3. Number of family		
members (person)	78	47,3
a. ≤ 4	87	52,7
b. > 4		
4. Education		
a. No school	1	0,6
b. Basic education	44	26,7
c. Secondary Education	72	43,6
d. higher education	48	29,1

Table 1 shows that most residents are in the age range of 20-60 years (66.7%), the gender of more than half (51.5%) are women, more than half of respondents (52.7%) have several family members more than four people, and most respondents' education (43.6%) is Junior-Senior High School.

Table 2. T-test (Community stress on Empowerment process)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p-Values
Community stress -> Empowerment process	0.321	0.329	0.145	2.218	0.027

Table 2 shows that the results of t-test obtained a significance level of 0.072 (p-value <0.05), which indicated that community stress affected community empowerment. The magnitude of the estimated community stress coefficient on the empowerment process is 0.321. The coefficient is positive if the higher the community stress, the lower the empowerment process.

DISCUSSION

Indicators of community stress include the threat of disaster, attachment to the region, economic limitations, past trauma, and powerlessness. The results of the study most (87.3%) of the community considered that the threat of disaster or emergency situations that had been experienced was in the low category, which means that the community felt that they were not threatened by being in a disaster-prone area, and most people were not traumatized by disasters or emergency situations that they had experienced. experienced. This is because the community has a high attachment to the area of residence (43.6%). Social relations among community members will affect resilience to disasters [12]. Indicators of the degree of reaction due to community stress experienced include; feelings of suffering, trauma, health threats, security threats, and fear. The results of the study were that the majority of people had negative reactions due to disasters or emergency situations they experienced. And almost all respondents have negative reactions to health threats, security threats and fear due to emergency situations they have experienced. This shows that people living in disaster areas have low community stress, meaning that the disaster-prone area environment is not a threat and does not cause trauma to events that have been experienced. This is related to environmental psychology, the feeling of being comfortable with where to live will affect people's perceptions of the threat of disaster, other things that influence are economic, and cultural factors, and strong social attachments [15,16]. Factors of belief and religion also affect a person's stressor, the belief that disaster is God's destiny can also affect individual perceptions in dealing with disasters [17].

Community empowerment is an effort to change people's behaviour patterns to increase ability and independence through four aspects, namely, social protection, capacity building, increasing accessibility and utilizing

local potential [18,19]. The indicators of the empowerment process include; raise awareness, gain knowledge, learn from experience, and find new perspectives. The results of the study most of the people have a good empowerment process. The empowerment process provides individuals with opportunities to work with others, learn decision-making and problem-solving skills and manage resources available in the community. Community assessment and empowerment processes are indispensable for preparedness in dealing with disaster situations [19]. The results of the study show that the community has made efforts to improve themselves in efforts to prevent daily emergencies due to disasters that have been experienced. The best result of the empowerment process is in increasing awareness (62.4%), which means that the community is aware that they are in a disaster-prone area which must be anticipated so that they do not experience daily emergency situations due to possible disasters. The community also seeks to learn from experience and seek knowledge or information in everyday emergency prevention efforts [18]. The lowest result of empowerment process research is finding new perspectives. This shows that people tend to do things they usually do, therefore providing motivation and information or training related to daily emergencies needs to be done so that people can have new skills or knowledge so they can find better prevention efforts. Community stress on community empowerment in daily emergency prevention efforts has a significant effect of 0.027 (p < 0.05). Low community stress will improve the empowerment process. People realize that they live in disaster-prone areas, therefore they need knowledge and skills to minimize the impact of disasters that may occur. Improving community-based disaster risk management needs to be done as an effort to increase community independence in preventing, overcoming, and restoring daily emergency conditions due to disasters, in order to avoid worse conditions [1,11].

CONCLUSION

Community stress will affect the degree of reaction and have an impact on the community empowerment process. Minimizing community stress by providing daily emergency knowledge and skills needs to be done so that people can be independent and could overcome health problems that may occur due to living in volcanic disaster-prone areas. Further research is recommended to identify specific factors that cause stress in communities in volcano disaster areas.

CONFLICTS OF INTEREST
The authors declare no conflict of interest.

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