Original Article

Stressors affected emotional and physiological exhaustion among volunteers during second wave of covid-19 pandemic

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Abstract

Aims: Our government summon up many resources during combating Covid-19 pandemic, including volunteers which has many backgrounds. Their domain mainly at pre-hospital area, but remain at high risk contracted by covid-19 virus. The purpose of this study was to analyze dominant threat which was perceived by volunteers which could affected emotional exhaustion and physiological stress in volunteers during second wave Covid-19 pandemic.

Design: This research was descriptive study using cross-sectional design.

Methdos: Respondents were taken by simple random sampling technique and 100 respondents were obtained during early December 2020 to end of January 2021. Smart Partial Least Square 3.0 was used as multivariate analysis.

Results : The analysis showed that t stat 8,766 (>1,96) and p values 0,000 (< 0,05), which means there was a direct influence between perceived emotional threat and emotional exhaustion. The second result showed that t stat 8,078 (> 1,96) and p values 0,000 (< 0,05), which means there was a direct influence between perceived emotional threat and physiological anxiety.

Conclusions : This study showed that perceived emotional threat was the main stressor which affect emotional exhaustion and physiological anxiety .This stressors are mental health issues among volunteer during Covid-19 pandemic and need to be handled as it can increase body vulnerability to SARS-COV-19 virus. This research sampling technique was accidental sampling, so the result of this study mainly represent the condition of Malang Covid-19 volunteers. A better sampling technique might be required to get a better result and population generalization

KEYWORDS : Perceived emotional threat, perceived cognitive threat, , emotional exhaustion, physiological exhaustion, Covid-19 volunteer

INTRODUCTION

Worldwide community and especially Indonesian government has been faced Covid 19 pandemic more than a year. Many sectors were involved in managing the pandemic, including intra and pre-hospital healthcare workers. During this period, there had been major adjustments and changes especially our health care system. Currently, health services rely more on online media, telemedicine, or telenursing (1). Even though, some healthcare services were still delivered by direct contact either intra and pre-hospital

setting, thereby increasing the risk of healthcare worker being exposed and infected by Covid 19 virus. This condition also affect those whom worked at pre-hospital area (2). Indonesia had different and unique pre-hospital healthcare service. In Indonesia, not all pre-hospital healthcare service was delivered by paramedic profession. Most of them were volunteers, who had either medical or non-medical profession background. This volunteers who helped at pre-hospital settings might be fused in a well-structured organization or not. They had vary background, some of them might worked at healthcare facilities but the other were not and did not undergone medical training before. They work at pre-hospital setting just to help people based on compassion and empathy.

Compassion and empathy were part of human emotion. During pandemic, volunteers and healthcare worker who were involved, deal with many things which triggered their emotion, or as perceived emotional threat. The conditions such as high mortality rate, repeated death everyday, social distancing impact, resistance from other family members, or guilty feeling (3). A study stated that almost all people who directly involved in healthcare service during pandemic period had higher workload compared to any other day. Management demand and healthcare service was extremely high, but on the other hand they hadn't equipped by enough resources (4). Unpleasant emotional experience that could be traumatizing, but during this time emotional readiness for volunteers, healthcare worker, and paramedics abroad never received special attention (3). Our volunteers, healthcare worker and paramedics also never had this emotional preparedness. In addition to the workload, the pandemic also caused increased anxiety and fear because of its severe impact on daily life, economy, and the ability of health care institutions to provide services. In general, almost all sectors of our life had collapsed (5). Volunteers and health workers also understand that they could be contracted or transmitted the virus to their loved ones any time, not to mention having to face stigma from society (6,7). A high workload accompanied by a short time limit for completing work is also a stressor which contributes to physical and emotional exhaustion (8).

A study conducted in Canada in 2017 revealed that paramedics had great confidence that they were capable of coping with a pandemic because they felt their communication systems, equipment and knowledge were sufficiently supportive. This situation could be due to previous experience with the SARS pandemic, so they prepared themselves by forming a system that they felt was better (9,10). Today's condition was different. Massive changed had happened in our system, we must adapt abruptly, there was no sign that this pandemic would be relieved. Sudden change and uncertainty was only a small part of stressor which could caused anxiety and lead to mental or physical illness (11).

Perceived cognitive and emotional threat which were felt by volunteers will impact emotional exhaustion dan physical anxiety. The purpose of this study was to identify emotional and cognitive threat stressors that could affect emotional exhaustion and physical anxiety experienced by volunteers during the Covid 19 pandemic.

METHODS

This research was descriptive study, and cross-sectional design was used. An online questionnaire was completed by respondents, conducted from early December 2020 to end of January 2021. Based on the theory, Partial Least Square analysis needed at least 30 to 100 respondents. This research used simple random sampling technique, and 100 respondents were obtained. The respondents were volunteers mainly in Malang City, East Java Province, either they have medical background or not.

There are four variables in this reseach, perceived cognitive threat, perceived emotional threat, physical anxieaty, and emotional exhaustion, all the variables were cathegorized into interval variables. The questionnaire to identify this variables was adapted from Fakhar Shahzad research (2020) about Perceived Threat of COVID-19 Contagion and Frontline Paramedics' Agonistic Behaviour: Employing a Stressor–Strain–Outcome Perspective. The questionnaire had 31 items in total, and was devided into four part based on the research variables. The answer which was chosen by respondents was given in 1 to 5 likert scale. The questions composition was 4 items for perceived emotional threat, 4 items for perceived cognitive threat, 11 items physiological anxiety, and 12 items for emotional exhaustion.

The validity and reliability test for each question were tested, and the result showed that cross loading value for each question was >7 which mean each questions were valid. Cronbach's alpha and composite reliability value for latent variables were > 0,7, it can be concluded that all latent variables were reliable. Counting general data was presented in frequency and precentage. Meanwahile to identify the correlation between all variables the data was analized using Smart Partial Least Square 3.0. The research model and hypothesis development:
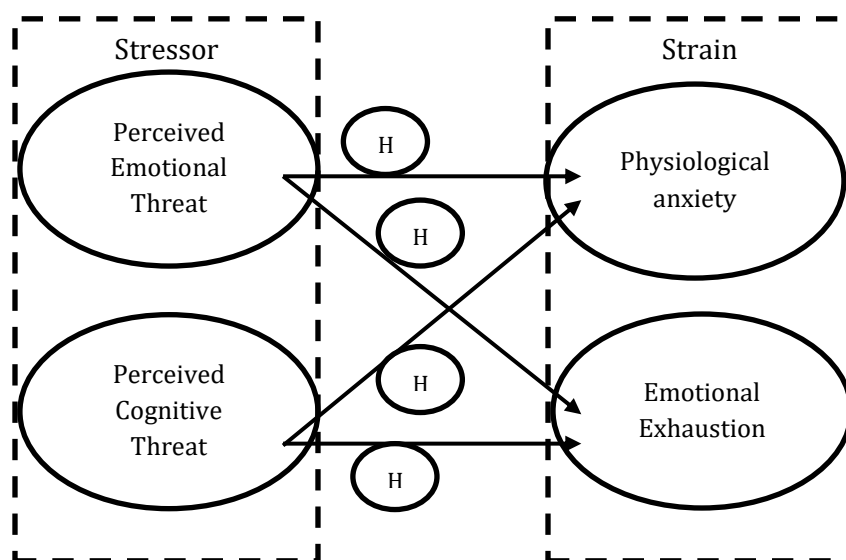
Figure 1: Proposed research model

Thus, we hypothesised the following:

H1: Perceived emotional threat will be positively related to physiological anxiety

H2: Perceived emotional threat will be positively related to emotional exhaustion

H3: Perceived cognitive threat will be positively related to physiological anxiety

H4: Perceived cognitive threat will be positively related to emotional exhaustion

RESULTS

From 100 respondents, 57 (57%) were male and 43 (43%) were female, 25 (25%) respondents were non-medical volunteers and 75 (75%) respondents were medical volunteers. 58 (58%) respondents were experienced in volunteering <5 years, 21 (21%) respondents incorporated for 10-15 years, and 21 (21%) respondents joined volunteering for >15 years.

Table 1 Participant demographic

Num	Characteristic	Keterangan	Frequency	Percentage
1	Gender	Male	57	57%
		Female	43	43%
		Total	**100**	**100%**
2	Marital Status	Married	87	87%
		Unmarried	13	13%
		Total	100	100%
3	Smoking status	Smoker	33	33%
		Non-smoker	67	67%
		Total	**100**	**100%**
4	Volunteer type	Non-medical	25	25%
		Medical	75	75%
		Total	**100**	**100%**
5	Experienced in volunteering	< 5 years	58	58%
		10-15 years	21	21%
		>15 years	21	21%
		Total	**100**	**100%**
6	Personal Protective Equipment (PPE) completeness	Lengkap	13	13
		Tidak lengkap	87	87
		Total	**100**	**100%**

Realiability and convergent validity

Convergent validity with reflective indicator in SmartPLS was reflected in Average Variance Extracted (AVE), and the value standard was >0,5. This table showed the value result:

Table 2: Reliability and convergent validity

Construct	Cronbach's Alpha	rho_A	CR	AVE
Emotional Exhaustion	0,945	0,948	0,952	0,622
Perceived Cognitive	0,724	0,728	0,852	0,541
Perceived Emotional	0,767	0,771	0,851	0,588
Physiological Anxiety	0,932	0,934	0,942	0,597

The suggested values for Cronbach's alpha and CR should be greater than 0.7, and AVE should be greater than 0.5; thus, the instrument was efficient and reliable and the data suited for further structural analysis. Goodness of fit model (R-square) was determined by R-square value. If R-square greater than 0,67, than the goodness of fit is strong, if the value 0,33 it means moderate, and 0,19 means weak. The table below showed the goodness of fit value:

Table 3: Goodness of Fit Model

|	R-square	Adjusted R Square
Emotional exhaustion	0,348	0,335
Physiological anxiety	0,383	0,370

From the table above, it could be concluded that the goodness of fit is moderate.

Direct hypothesis test was used to verified if exogen variable had impact to endogen variables. This impact was based on comparison between t statistic and t table, and the significancy is 95% (α = 0,05). If t statistic greater than t table (1,96) or p value less then α 0,05, it could be concluded that there was significant impact and vice versa.

Table 4: Path Coefficient

	Original Sample	Mean Sample	STDEV	T Stat	p Value
PC → EE	0,002	0,019	0,091	0,018	0,986
PC → PA	0,127	0,139	0,085	1,490	0.137
PE → EE	0,590	0,598	0,067	8,766	0,000
PE → PA	0,552	0,560	0,068	8,078	0,000

*PC=Perceived cognitive threat , EE=emotional exhaustion, PA=Physiological anxiety, PE=Perceived emotional threat
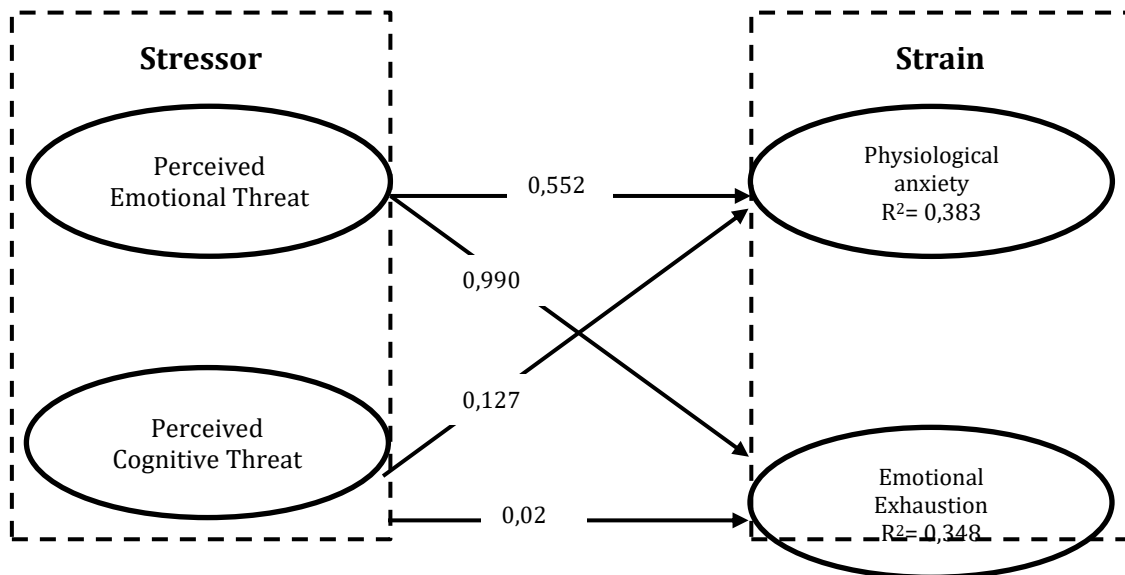
Figure 2: PLS result for hypothesis testing

Based on SmartPLS 3.0 calculation, the results were:

1. t statistic (0,018) less than t table (1,96) and p value (0,986) greater than 0,05; thus there was no direct impact between perceived cognitive threat with emotional exhaustion;

2. t statistic (1,490) less than t table (1,96) and p value (0,137) greater than 0,05; thus there was no direct impact between perceived cognitive threat with physiological anxiety;

3. t statistic (8,766) greater than t table (1,96) and p value (0,000) less than 0,05; thus there was direct impact between perceived emotional threat with emotional exhaustion. This value was significant but weak;

4. t statistic (8,078) greater than t table (1,96) and p value (0,000) less than 0,05; thus there was direct impact between perceived emotional threat with physiological anxiety. This value was significant but weak

DISCUSSION

Nowadays, all countries in the world are facing the same problem, Covid-19 pandemic. Many parties are involved in the management of Covid-19, one of which is volunteers. This research was focused on stressors experienced by volunteers and their impact on emotional and physiological exhaustion. Many similar studies have been carried out abroad, however Indonesia's volunteers have distinct characteristics from other countries. There are volunteers who are included in the official health care system (similar to paramedics abroad), some are independent and the services provided are driven on humanitarian grounds. Volunteers may have a medical background such as a nurse, and some other have no health education background.

In this study, 75% of the volunteers originated from medical personnel so that information on the management of Covid-19 patients was obtained from trusted sources. The development of research and knowledge about Covid-19, as well as the rapid dissemination of information can also provide peace for healthcare workers, volunteers, and public. Scientifically, medical personnel have been equipped with knowledge about pandemics and may have had learning experiences through simulations. This might be one of the reason why perceived cognitive threat has no direct impact to either emotional exhaustion and physiological anxiety. On the other hand, our health-care system had faced SARS pandemic some times ago. A study conducted in Canada in 2017 revealed that paramedics had great confidence that they were capable of coping with a pandemic. This situation could be due to previous experience with the SARS pandemic, so they prepared themselves by forming a system that they felt was better (9,10).

This research result showed that t_{stat} (8,766) > t_{table} (1,96) which means that there was a relationship between perceived emotional with emotional exhaustion and between perceived emotional threat with physiological anxiety. Until now, it can't be concluded when this pandemic will come to an end. This pandemic cause major disruption in many aspects of our life, especially economy. We can notice that many entrepreneurs are forced to shut down their business because they can't endure the economic condition. This causes the increasing of unemployment rate in many countries, including Indonesia. When people

spot even a small chance to fix their life, they will try as best as possible in order to restore their economic condition. On the other hand, environmental security to prevent Covid-19 spreading especially in Indonesia does not support the effort.

Four items was used to identified volunteers perceived emotional threat. One item which had the highest score was 'how much Covid-19 illness affect you emotionally', the outer loading was 0,813. Most of the respondents feel that this pandemic affect their emotional state in negative way. Second question which also had a considerable outer loading (0,759) was 'how worried are you with covid-19 transmission'. Some of Indonesian volunteers also act as health care workers, they also have anxiety while carrying out services (12). A study in Turkey stated that the anxiety of health care workers, especially ambulance workers has increased. Some of the things that cause this condition are high working hours, high workload, close contact with Covid-19 sufferers, and concerns about transmitting infections to their families (13). There has been a major change in the health care services which volunteers provide. In reality, there are volunteers in Indonesia who act as paramedics, providing health assistance armed with their knowledge. In Covid-19 management, their task are picking up sick people from home whether they already confirmed infected by Covid-19 or not, burying the deceased whose have been confirmed by Covid-19, and even transferring or referring patients from one hospital to another. Unfortunately 87% of these volunteers are not adequately equipped with PPE facilities. However, the elevation of hospital visit due to Covid-19 is one of physical burden for volunteers. They have to drive from one location to another, buries confirmed Covid-19 bodies within a certain time frame, refer patients out of town, and all in full PPE. The physical burden experienced can increase the emotional exhaustion of volunteers.

The Indonesian government expectation to flattened the pandemic curve were not supported by society. There was phenomenon of people behaviour which was unsupportive, they tend to ignore the advice to wear mask properly, doesn't wash their hand, even some groups have thought that there is no pandemic and try to provoke another people to counter government policy. Besides, Indonesia has culture which upholds kinship and mutual cooperation that brings out new issues when social gatherings between friends and family are confined. Even the government's policy to ban going home on Eid al-Fitr has proven ineffective, because visiting family is an obligation that cannot be abandoned (14). This lead to the emergence of illegal tourism which not obey government policy, because they spot an opportunity to earn money (15).

To overcome this condition, the government has issued various policies and cooperated with various parties, including religious figures. The information related to Covid-19 has been disseminated through official government media. However, changing thoughts is challenging. This certainly will hindered our effort to reduce Covid-19 spreading in Indonesia. Public resistance to preventing the spread of Covid-19 is still quite high. This of course has an impact on the number of patients who must receive treatment if they contracted the virus. The longer this condition, the more anxiety which was perceived by people. This condition was consistent with research which stated tha current generation

may never been in a pandemic situation which was affected major aspects of life. Uncertainty and worrying environmental conditions due to Covid-19 can cause anxiety (16).

Research conducted in Russia showed that health care workers who involved in handling Covid-19 experienced stigma given by the community, thereby increasing their anxiety (17). This phenomenas also appear in Indonesia. When carrying out their duties as volunteers, they are close to Covid-19 sufferers, have limited PPE, and are worried about transmitting the virus to their families. After dealing with physical challenges, volunteers are still dealing with the stigma that society give to them. There was resistance to health care workers, including volunteers, when they wanted to go home. They were evicted by residents in their neighborhood because they were considered as a source of Covid-19 transmission. This condition causes the emergence of physical and psychological stressors which clearly affect the emotional exhaustion of volunteers.

CONCLUSION

Indonesian volunteer has unique characters, and different from any other countries. Our volunteers do not always have medical background to support their activities. Sometimes they act based on their desire to help other people. Meanwhile, there are also many volunteers who have medical bacground so they also dedicate their knowledge in volunteering activities. These two background cause different coping mechanism when facing problem in the field. Perceived emotional threat is the major stressor which dealt by volunteers and directly affected emotional exhaustion and physiological anxiety. Perceived emotional threat is one predispose for mental health illness, so further prevention are needed.

This research sampling technique was accidental sampling, so the result of this study mainly represent the condition of East Java Province Covid-19 volunteers. A better sampling technique might be required to get a better result and population generalization.

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