

CORRELATION BETWEEN PSYCHOLOGICAL DISTRESS AND COPING MECHANISM STRATEGY AMONG HEALTH WORKERS WITH CONFIRMED COVID-19

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Abstract

Introduction: The COVID-19 pandemic has become a serious problem in the world of health that attacks the wider community and globally and has an impact in the form of psychological disorders among health workers as the forefront in the management of COVID-19; it is necessary for health workers with confirmed COVID-19 to have a coping mechanism strategy to overcome the problem of psychological distress. This study aimed to determine the correlation between psychological distress and coping mechanism strategy among health workers with confirmed COVID-19.

Methods: The quantitative descriptive method with a cross-sectional approach was applied in this study which was conducted on June 3 – July 2, 2021 and involved 129 health workers with confirmed COVID-19 in Majalengka District who were selected by incidental sampling technique. Data were collected through DASS-21 and BRIEF COPE questionnaires. Data analysis used frequency distribution and Pearson correlation.

Results: Based on this study, the highest score was obtained for the category of psychological distress (anxiety) at 43%, the coping mechanism strategy among health workers with confirmed COVID-19 was problem-focused coping by 2.95 and there was a significant correlation between psychological distress and coping mechanism strategy among health workers with confirmed COVID-19.

Conclusions: There was a significant correlation between psychological distress and coping mechanism strategies among health workers with confirmed COVID-19. Multidisciplinary interventions to deal with psychological problems in health workers are required to minimize the level of anxiety and stress they face.

Keywords: Psychological distress, coping, health workers

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INTRODUCTION

A disease originating from the SARS-CoV-2 Coronavirus has become a serious problem in the world of health that attacks the wider community and globally and has been declared a pandemic by the World Health Organization (WHO) in March 2020 (World Health Organization, 2020). This virus initially emerged from China which then quickly spread to many other countries to become a worldwide pandemic through person-to-person transmission (Chan et al., 2020).

Globally, it was recorded that until July 2020 there were 216 areas affected by COVID-19 cases with more than 12,000,000 positive confirmed cases and more than 500,000 confirmed deaths (Culp, 2020). The number of cases indicates that the global health system can be overwhelmed by the COVID-19 disease, especially health workers as the forefront who must be protected as each country's most valuable resource in dealing with COVID-19 (Armitage and Nellums, 2020). As of October 2020, there were 43 million cases of COVID-19 in the world, 393 thousand cases in Indonesia and 33,924 cases in West Java Province (Kemenkes RI, 2020). In Majalengka District, COVID-19 cases are growing every day, in January 2021 there were 1857 cases and 204 health workers were exposed, including people who worked in hospitals as well as in Community Health Centers (Dinas Kesehatan Majalengka, 2021).

The COVID-19 outbreak is contagious, spreads rapidly and has an impact in the form of psychological distress and mental illness symptoms (Yanping Bao et al., 2020). This condition can put health workers at risk of psychological disorders due to various things, including facing unusual and unprecedented risks of occupational morbidity and mortality such as lack of adequate PPE, exposure to infected patients, work overload, poor infection control, caring for infected patients and concerns about the risk of transmitting infection to family and themselves (Temsah et al., 2020).

Psychological pressure will directly hinder the ability of health workers to provide care (Chen et al., 2020) and this will further have an impact on the mental health of health workers. So far, the management of mental health disorders has focused more on the community than health workers even though health workers are at the forefront of health services provided for the community. So, mental health disorders surely will affect the health services provided. The rights of health workers must be protected and fulfilled. So it is necessary to have a comprehensive handling related to the security of such workers. The handling that should be carried out by hospitals or health services to prevent mental health disorders in health workers includes providing a resting place to isolate themselves, providing guaranteed food and supplies for daily life, recording activities during work to be distributed to families, training in handling anxiety about COVID-19 patients, hospital management needs to procure PPE (Personal Protective Equipment) and bring in psychological counselors (Tan, 2020)

Health workers have a higher prevalence of mental disorders than general workers, and they are more likely to have a longer time to work than usual, higher psychological burden, more seriously controlled work, more demands on the job site, coupled with the higher prevalence of shift work (Cheng and Cheng, 2017). The indirect impact experienced by health workers related to mental health is very important to pay attention to in the form of increasing care, healthcare planning for mental problems and prevention through various steps in overcoming the potential for the next pandemic. The existence of assessment, support, and care for mental health is an important part regarding the effects of the COVID-19 outbreak (Yu-Tao Xiang et al., 2020). Therefore, it is very important to be aware of the psychological status of medical personnel (Wen Lu et al., 2020).

As an anticipatory step to overcome the impact on psychological disorders in

dealing with COVID-19, various coping strategies are needed, including dealing with problems appropriately so as to avoid worries and anxiety to minimize potential stress. Coping is a form of behavior that can be seen or hidden so that it can reduce or even eliminate stressful psychological condition and conditions that are vulnerable to stress. Coping strategies aim to anticipate various forms of behavior and thoughts, either negative or positive, and then reduce tough conditions that become a burden so as to avoid stress (Sarafino and Smith, 2011). Coping resources that exist in a person will greatly affect the coping strategies applied to the process of various problem solving. Based on the explanation above, this study aims to determine the relationship between psychological distress and coping mechanisms for health workers who are confirmed to have COVID-19.

METHODS

The researcher applied descriptive quantitative research design and cross-sectional approach. The population in this study was health workers with confirmed COVID-19 in Majalengka Regency. The sample in this study amounted to 129 health workers who were confirmed to have COVID-19 from June 2020 to May 2021 and were spread across all health facilities in Majalengka Regency, both at the community health centers and hospitals. The inclusion criterion was all health workers who have confirmed COVID-19 in the Majalengka Regency work environment and the exclusion criterion was decided not to be a respondent. Non-probability sampling was applied as the procedure for study samples selection while the sampling technique used here was incidental sampling.

In this study, two assessment instruments were used for the data collection process which assessed psychological distress and coping mechanism. Psychological distress was assessed using the Manual for The Depression Anxiety & Stress Scale (DASS-21)

instrument developed by Lovibond and Lovibond (1995). The DASS-21 instrument has twenty-one statements with seven statements each in the assessment of depression, anxiety and stress problems.

The coping mechanism was assessed using the COPE Brief instrument designed by Lazarus (1984) and Carver, Scheir and Weintraub (1989). The total coping score was obtained in the form of a sum of scores for each item obtained by individuals from item number 1 to item 28. Categorization was carried out by researchers through searching for the mean score and the standard deviation of each respondent's coping score, which were then grouping based on certain conditions: low (-1SD), medium (-1SD to +1SD) and high (+1SD) (Putri, 2012).

The study data collection was conducted using an online approach through Google survey instrument (Google Forms). The researcher limited the time for data collection from June 3 to July 2, 2021.

Data were analyzed using descriptive statistics presented with frequency distribution, mean value and percentage obtained from each individual's score. Pearson correlation was used to determine the correlation between psychological distress and coping mechanism strategy and to correlate problem-focused coping and emotion-focused coping based on psychological distress.

Data were collected after obtaining approval from the Research Ethics Commission of STIKes Jendral Ahmad Yani Number: 02/KEPK/V/2021.

RESULTS

It can be seen in Table 1 that 44% of respondents in this study aged >40 years, 79% were female, 50% had a Diploma IV/Bachelor education level, 92% were married, 83% worked >5 years, and most respondents were nurses by 48% and midwives by 36%.

In Table 2, it can be seen that the mean total score of psychological distress is 7.17 and the standard deviation was 5.98.

Table 1. General Description of Respondents (n=129)

Demographic Aspect		Frequency	%
Age (in years)	18-30	26	20
	31-40	46	36
	>40	57	44
Gender	Male	27	21
	Female	102	79
Education	Diploma III	62	48
	Diploma IV/Bachelor	64	50
	Master	3	2
Marital Status	Married	119	92
	Unmarried	10	8
Service Period	≤ 5 years	22	17
	> 5 years	107	83
Profession	GP	1	1
	Nurse	62	48
	Midwife	46	36
	Public Health	6	4
	Health Analyst	1	1
	Medical Laboratory Technologist	4	3
	Dental Nurse	1	1
	Pharmacist	4	3
	Health Administration	4	3

Table 2. General Description of Psychological Distress among Health Workers with Confirmed COVID-19

Total Subject	Mean Total Score	Lowest Score	Highest Score	Standard Deviation
129	7.178295	0	30	5.981024176

Based on Table 3 regarding the distribution process, the highest score was obtained for the category of psychological distress (anxiety). Of the 129 subjects studied,

55 respondents (43%) experienced anxiety, 23 respondents (18%) experienced depression and five respondents (4%) experienced stress.

Table 3. Distribution of Psychological Distress

Categorization of Score	Depression			Anxiety			Stress		
	Score Range	Total Subject	%	Score Range	Total Subject	%	Score Range	Total Subject	%
Normal	0-9	106	82.17	0-7	74	57.36	0-14	124	96.12
Mild	10-13	13	10.08	8-9	11	8.53	15-18	5	3.88
Moderate	14-20	10	7.75	10-14	40	31.01	19-25	0	0
Severe	21-27	0	0	15-19	3	2.33	26-33	0	0
Very Severe	28+	0	0	20+	1	0.78	34+	0	0

In Table 4, it can be seen that the mean total score of coping among subjects was 71.57 and the standard deviation was 12.23. Meanwhile, it can be explained that the type of

coping applied by health workers while experiencing COVID-19 was problem-focused coping by 2.95 compared to emotion-focused coping 2.75 (Table 5).

Table 4. General Description of Coping among Health Workers with Confirmed COVID-19

Total Subject	Mean Total Score	Lowest Score	Highest Score	Standard Deviation
129	71.573643	30	94	12.23071

Table 5. General Description of Problem-Focused and Emotion-Focused Coping

	Mean Total Score	Item Number	Mean Type of Coping
Problem Focused Coping	24.15504	10	2.95
Emotion Focused Coping	44.35659	18	2.75

Based on Table 6, it can be seen that the dominant mean score on the religion subscale

was 7.05 and the lowest mean score was for the substance use subscale (2.31).

Table 6. General Description of Coping Strategy Subscale

Coping Item	Mean Total Score
Active	5.992248
Planning	6.565891
Using Instrumental Support	5.868217
Self-distraction	5.488372
Behavioral Disengagement	2.705426
Religion	7.054264
Positive Reframing	6.542636
Acceptance	6.682171
Humor	4.20155
Using Emotional Support	6.100775
Denial	3.410853
Venting	4.209302
Substance Use	2.317829
Self-Blame	3.837209

Based on Table 7, it can be seen a significant correlation between psychological distress and coping mechanism strategy among health workers with confirmed COVID-19 ($p < 0.05$).

Based on Table 8, it can be seen that there is a significant correlation between psychological distress ($p < 0.05$) with problem-focused coping and emotion-focused coping.

Table 7. Correlation between Type of Psychological Distress and Coping Mechanism Strategy among Health Workers with Confirmed COVID-19

Type of Psychological Distress	Coping	
	R	P
Depression	0.213*	0.015
Anxiety	0.217*	0.013
Stress	0.227**	0.01

* $p < 0.05$ level; ** $p < 0.01$ level

Table 8. Correlation between Coping Types and Psychological Distress among Health Workers Confirmed with COVID-19

Type of Coping	Psychological Distress (Depression, Anxiety, Stress)	
	R	P
Problem-focused coping	0.172**	0.0021
Emotion-focused coping	0.155**	0.0005

*p<0.05 level. ; **p<0.01 level

DISCUSSION

The increasing number of cases of patient morbidity reported positive for COVID-19 has caused tremendous psychological problems in various populations. This is a pioneer study which investigates the psychological effects of the 2019 Coronavirus disease outbreak in Majalengka District among health workers in terms of depression, anxiety and stress (psychological distress) aspects as well as strategies for coping mechanism. The study findings proved that there was a significant correlation between psychological distress (depression, anxiety, stress) and coping mechanism strategy among health workers with confirmed COVID-19. The findings of this study regarding the distribution of psychological distress indicated that less than half of respondents experienced anxiety and the majority experienced moderate anxiety by 31.01%. Confirmed positive for COVID-19 is a very serious event and threatens or damages the respondent's well-being, which then has a risk of triggering psychological distress in the forms of tension, anxiety and hopelessness feelings.

The important role of health workers during a pandemic as the frontline is very vital and massive, making them more vulnerable to anxiety and stress due to the excessive healthcare system in addition to fear of being infected (Koh and Lim, 2003; Tam, 2004; Wilson, 2005). The risk of being infected among health workers is due to direct contact with patients who are reported to be positive for COVID-19 and patients who do not want

to openly convey their medical history. Such condition leads to higher level of anxiety and fear among health workers regarding COVID-19 transmission toward their families and friends compared to themselves (Shechter, 2020).

Psychological distress is a form of emotional burden that causes suffering due to psychological pressure that befalls the individual so as to inhibit and disrupt his health condition in the form of symptoms of anxiety and depression. The high level of stress and anxiety may be due to the fact that COVID-19 is a virus that has recently emerged with a very rapid, drastic process of transmission, accompanied by a growing level of information in the media (Barry and Al Amri, 2020). The most important factor that helps relieve anxiety among health workers is when their family is healthy, not infected with COVID-19 and is not believed to be at risk of infection. In addition, a positive work environment with guaranteed personal safety at work is the main or key factor for health workers to continue working during the pandemic as a form of their social, moral and professional obligations.

The finding of this study is in line with a study conducted by Cai H et al. (2020) that found health workers were worried about the safety of themselves, their families and the psychological effects associated with reports of deaths due to COVID-19 infection. A previous study also stated that more than half of health workers experienced high levels of fear and anxiety during the SARS-CoV outbreak (Imai, 2005; Koh, 2005; Temsah et al., 2020).

Regarding the coping mechanism strategy, the results showed that there was a correlation between problem-focused coping and emotion-focused coping with psychological distress. In the distribution of coping, the coping efforts made by respondents were medium (58.91%) and respondents mostly used problem-focused coping as a coping mechanism strategy when they were confirmed positive for COVID-19. Applying problem-focused coping to deal with problems helps someone in overcoming the distress as a step to anticipate problems and is expected to be effective in dealing with stress (Dai and Sternberg, 2004).

Health workers who were confirmed positive for COVID-19 were able to decrease the stress level when they got support from family, coworkers and the community. Another thing that is important to note is regarding the educational aspect. All respondents in this study were highly educated people (because the minimum educational qualification of health workers was D III) so it is estimated that the quality of existing knowledge and understanding is already well-established so that they are expected to be able to deal with various problems well. The study finding is similar to a study conducted by Erika Sitta Nurlaela (2018) where the experimental group that applied problem-focused coping steps or strategy showed a decrease in the frequency of distress. Furthermore, respondents with the ability to solve problems and received positive encouragement in their social environment seemed more optimistic. [Click or tap here to enter text..](#)

Although many respondents applied problem-focused coping as a coping mechanism strategy when confirmed positive for COVID-19, data processing results showed that emotion-focused coping had a close correlation with psychological distress. The presence of emotional factors that participate when a person faces a problem will have an influence on the level of stress. In addition,

adaptation will also affect the process of selecting certain coping strategy (Bouteyre, Maurel and Bernaud, 2007).

The study finding is in accordance with a study conducted by Amalia which showed a correlation between emotion-focused coping and the potential for high levels of depression. Of course, this problem is caused by the use of a maladaptive pattern of coping strategies (response to anger and withdrawal from the social environment) which could affect the intellectual function of the individual so that it further affected the performance process and changes in the external environment (Dai and Sternberg, 2004; Tuasikal and Retnowati, 2018).

Coping mechanism involves steps taken by individuals to face a problem, anticipate changing conditions and risky situations, cognitively or behaviorally. Coping is a process for individuals who try to manage differences which are considered as a stressful condition, so that they can be accepted, both in the form of desires (demands) and income (resources). Coping can be oriented to the process of fixing a problem, providing encouragement in changing perceptions of incompatibility, accepting risk and letting go or avoiding situations that can cause stress (Lazarus, R, 1984).

Compared to the other thirteen subscales, the highest coping subscale was the religion subscale (7.05). Most of the respondents were Muslim and applied religion positive coping as a coping mechanism strategy by getting closer to Allah when facing problems. In general, religious beliefs will greatly affect a person when they are faced with a stressful situation so that religious elements can play an important role in overcoming the problems being faced (Anggraini, 2014).

Individuals who had high religiosity tended to have satisfaction in living life, could feel happiness and had little potential to get negative consequences from traumatic experiences (Taylor, 2015). Religious coping

strategies were proven to help a person to reduce anxiety, fear, and tension that had been the cause for not being able to adjust to changing environment (Najati, 1985).

The lowest coping subscale was the substance use subscale (2.31). This finding illustrated that the majority of health workers did not consume alcohol or drugs in dealing with stress experienced due to COVID-19 infection. They prioritized healing by taking medicines and supplements to support recovery during self-isolation.

Health facilities should be encouraged to carry out educational campaigns targeting health workers to increase their knowledge and awareness about COVID-19 as well as reassure them with the efficiency of appropriate infection prevention control measures and provide a safe environment. These actions are considered a very important step to minimize stress levels and prepare health workers for the COVID-19 pandemic. Awareness of health workers in infection prevention and control measures, effective communication and dissemination of appropriate information and emotional support will have a major impact on minimizing the level of anxiety and stress being faced (Chan and Huak, 2004; Goulia, 2010).

In addition, multi-disciplinary interventions in managing physical and psychological symptoms are required in the form of COVID-19 emergency training, psychological skills training for health workers, optimizing the compliance of healthcare workers, and special interventions for the mental health welfare of health workers. Those efforts act as a reminder to pay more attention to mental health to health workers, (CaiW et al., 2020; Chew, 2020; Lai, 2020; Temsah et al., 2020).

CONCLUSIONS

Health workers with confirmed COVID-19 experience significant levels of anxiety and stress due to the risk of transmitting it to other people, especially families. Therefore, health

facilities need to carry out comprehensive handling related to prevention and safety measures for health workers including adequate Infection Prevention And Control (IPC), and Occupational Health and Safety Program protocols to ensure safety for health workers, especially in the work environment and early detection of infections among health workers through supervision and/or laboratory testing which is a key strategy to prevent secondary transmission from health workers to patients, between health workers and outside health facilities.

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Conflict of Interest

The authors declare that there is no conflict of interest.

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