Online Affirmation and Peer Support are Effective for Reducing Medical Personnel Stress in Dealing with COVID-19 Patients

Nurmukaromatis Saleha[1]✉, Rina Delfina[1], Nurlaili[1], Fourni Ardiansyah[2], Mercy Nafratilova[2]

[1]Universitas Bengkulu, Bengkulu, Indonesia
[2]RSUD dr. M. Yunus, Bengkulu, Indonesia

Article Info

Abstract

The COVID-19 outbreak has psychological impacts on frontline medical personnel at risk of infection. Therefore, this study aimed to evaluate the effect of online affirmations and peer support on medical personnel stress level in dealing with COVID-19 patients, as well as social support and spiritual intelligence's influence. It was a quasi-experiment with pre- and post-test administered to 25 and 30 medical personnel as the intervention and control groups, respectively. The intervention was carried out on WhatsApp group for 4 weeks. The stress level pair T-test results showed $p = 0.000$ in the intervention group and $p = 0.238$ in the control, while the independent T-test results showed $p = 0.009$. Social support did not affect medical personnel's stress ($p=0.978$), but the effect of spiritual intelligence was significant ($p=0.000$). According to the results of multiple regression test conducted using the Enter method, the coefficient value $(R2) = 0.584$. This intervention was effective in helping medical personnel to manage stress. Hence, hospital managers need to carry out stress management training to maintain medical personnel's mental health.

INTRODUCTION

World Health Organization (WHO) has designated COVID-19 as a pandemic on March 11, 2020. COVID-19 had a broad impact in almost all aspects of human life, economy, politics, and have created unprecedented challenges to health care systems. Medical personnel are at the frontline of handling COVID-19. Since March, Bengkulu City has become the red zone for the COVID-19 outbreak. The increase in the number

of sufferers is quite significant from day to day. On Saturday 24 October 2020, 548 people were confirmed positive, 35 people died (6.39%), 414 people recovered (75.55%). This high rate of morbidity and mortality has an impact on psychological stress for medical personnel who work to treat COVID-19 patients.

The common psychological stress responses to the COVID-19 Pandemic faced by medical personnel includes physical and cognitive/emo-

tional exhaustion, fear, anxiety, anger related to the threat to safety in self, family, coworkers (transmitting COVID-19), worry about contracting the illness from patients, separation from family, especially care for children, inadequate personal protective equipment, stigma. This psychological stress will affect the professional appearance of medical personnel. The mental resilience of medical personnel is an important thing during this pandemic due to the unpredictability of when it will end (Blake et al., 2020; Chen et al., 2020; Lai et al., 2020). Maintaining staff mental health is essential because the psychological wellbeing of medical personnel will influence the duty performance (Langdon et al., 2016; Lohmann et al., 2019; Barzilay et al., 2020). It is important for hospital managers to seek strategies to maintain the mental resilience of medical personnel and preventing burnout and psychological trauma (Mo et al., 2020). These conditions affect psychological well-being. A healthy mental state is a basic need of every individual. psychological well-being of several factors such as demography, social support, evaluation of life experiences, locus of control, and religiosity.

COVID-19 had a broad psychological impact on individuals and had an impact on psychiatric morbidity. Especially for medical personnel who are facing excessive exposure to stressors due to this outbreak. The fact that there are medical personnel who have been evicted from their homes also shows the low social support. Positive social support was needed as a preventive measure from mental disorders and got psychological well-being (El-Zoghby et al., 2020; Nie et al., 2020; Wang et al., 2020). There was a significant relationship between spiritual intelligence and psychological well-being. Spiritual intelligence is important for individuals with stress adaptation to crises so that they can maintain their psychological well-being (Esfahani & Sadeghi, 2015; Ahoei et al., 2017)

Psychological strengthening of medical personnel can be done starting from themselves or in groups. Positive affirmation or positive self-talk is one of the stress management interventions in the form of reinforcing positive motivational words to oneself that are repeated and every day (affirmation) which then attaches to the individual's subconscious mind. Several studies related to stress management show affirmations can reduce stress levels (Boutin-Foster et al., 2016; Kusumastuti et al., 2017; Mays & Zhao2,

2017). Besides strengthening the group of medical personnel is also an intervention that can be used as stress management. The health protocol during the COVID-19 pandemic required a saving of distances between individuals. However, the needs of humans as social creatures must still be fulfilled. The sense of togetherness in one fate requires medical personnel to be connected to remain mutually reinforcing (Albott et al., 2020). Affirmations and peer support Interventions by online so that medical personnel can encourage one another. Affirmation activities become more measurable so that bias in research can be avoided.

The aims of this study were to evaluate the effect of online affirmation interventions and peer support on the stress of medical personnel in dealing with COVID-19 patients. We also investigated the effects of social support and spiritual intelligence on medical personnel's stress (Liao et al., 2020; Pollock et al., 2020; Serrano-Ripoll et al., 2020).

METHODS

This study is a quasi-experiment with pre and post-test with a control group. The study was conducted on medical personnel at two government hospitals that handled COVID-19 patients, namely the Regional General Hospital (*RSUD*) dr. M. Yunus (Intervention group) and Bengkulu City Regional Hospital (Bengkulu City Hospital) as the Control group. The control group was used to find the difference in effectiveness between online and offline affirmation interventions, reducing research bias. Determination of the hospital for the intervention and control groups was carried out by simple random sampling, but the research sample was taken by purposive sampling. The criteria for medical personnel who participated in this study were those with a maximum age of 45 years, no comorbidities, not pregnant or breastfeeding, were medical personnel who were included in the special COVID-19 team. Fifty-five medical personnel participated in this study and were divided into two groups, were in the intervention group of 25 people and the control group of 30 people.

The interventions carried out in the medical personnel group at *RSMY* were online affirmation and peer support. Researchers formed a WhatsApp group called "We Can Fight CO-VID-19" for an intervention group. Each health worker in the intervention is required to write

positive affirmation sentences twice a day with a minimum period of 6 hours. WhatsApp groups respect each other and provide mutual support. The intervention was carried out for 30 days, starting from 19 September to 19 October 2020. In the control group, researchers explained orally and in writing about positive affirmations as one of the interventions that can be used in stress management. Researchers provide articles on the importance of affirmations for managing stress in maintaining psychological well-being and advise each medical staff in the control group to do affirmations.

We assessed the stress levels of medical personnel before and after the intervention (30 days later) using the Perceived Stress Scale (PSS) questionnaire (Chan & la Greca, 2013). Before analyzing the PSS data, we first conducted a data normality and homogeneity test. Data were homogenous and normally distributed, so we used the analysis of the PSS results in each group using the paired t-test, while to compare the PSS results in the two groups we used the Independent t-test.

To assess the effect of social support (ISEL questionary) and spiritual intelligence (SISRI) on nurses' stress, we performed multiple linear regression tests. The results of the validity and reliability test of the social support and spiritual intelligence instrument show that all items of questions have r > 0.36 which means that all questions on both meet the validity requirements. In the reliability test results, the value of alpha Cronbach's ISEL was 0.84 and SISRI 0.92 was obtained. The data obtained were then analyzed using descriptive statistical analysis for univariable analysis. Bivariable analysis using the paired t test and independent t Test. Multivariable analysis using the logistic regression test of the Enter LR method with a significance level of 95% using data processing software.

This research has passed an ethical review with a letter number 226/UN30.14.9/LT/2020 issued by the Health Research Ethics Committee of the Faculty of Health and Medicine, University of Bengkulu.

RESULTS AND DISCUSSION

Respondents in this study were medical personnel who treated patients with positive COVID-19. *RSUD* dr. M. Yunus and *RSUD* Bengkulu City are two government hospitals in Bengkulu City that provide a special room for COVID-19 treatment. The intervention group consisted of 25

medical personnel while the control group consisted of 30 people. The descriptions of the medical personnel that participated in this study are as follows.

The results of data processing social support (p = 0.160) and spiritual intelligence (p = 0.173) in both groups are normally distributed and homogeneous. The mean value of social support is 41.9 below the median value of 47. Spiritual intelligence had a mean of 37.49 with a median value of 41. The possible range of social support is 22-88, the acquisition of the respondents' score is 22- 65. While the acquisition of spiritual intelligence scores from 17 - 60 with a possible range of 17-68.

Measurement of the level of stress before the intervention in the control group was mostly at low stress levels, namely 18 people (60%), while in the intervention group at severe levels there were 14 people (56%). Furthermore, after 4 weeks of the implementation of the intervention, post intervention measurements were carried out, the results showed that the number of medical personnel experiencing low stress in the control group was increased to 20 people (66.7%). In the intervention group, there were no medical personnel who experienced severe stress. To perform a bivariate analysis, we first tested the homogeneity and normality of the data. The two groups were homogeneous (p = 0.092). Testing data normality using the one-sample Kolmogorov-Smirnov obtained p value = 0.176 in the control group and p = 671 in the intervention group. This shows that the data is normally distributed so that the pair t test and independent t test are used to see differences in stress levels before and after inter and inter-group interventions.

The results of the pair t test in the control group obtained p = 0.238 and in the intervention group p = 0.000. Based on these results, it can be said that there was a significant change in stress levels in the medical personnel group at *RSUD* Dr. M. Yunus (intervention group) before and after the intervention with a mean rank of 8.200 (95% CI: 7.217 to 9.183). This shows that the intervention group tends to decrease stress with an average of 8.200. Furthermore, the results of the independent t test obtained p value = 0.009, this indicates that there is a difference in stress levels between the two groups before and after the implementation of the intervention.

The results of multiple linear regression showed the effect of social support on stress with

Table 1 Results of Analysis of Sociodemographic Characteristics of Medical Personnel

Characteristics	F intervention group	%	F control group	%
Sex				
Male	11	44	13	43,3
Female	14	56	17	56,7
Age				
26-30	1	4	16	53,3
31-35	10	40	7	23,3
36-40	9	36	7	23,3
41-45	5	20	0	
Educational Background				
Diploma	5	20	9	30
Bachelor	13	52	9	30
Ners (Professional Nurse)	5	20	12	40
Magister	2	8	0	
Length of Work				
1 - 3 Years	0	0	17	56,7
>3 Years	25	100	13	43,3
Type of Labor				
Labor Contract	0	0	18	60
Government Employees	25	100	12	40
Marital Status				
Single	0	0	8	26,7
Married	25	100	22	73,3
Type of Health Worker				
Nurses	20	80	30	100
Midwives	5	20	0	0

p value 0.978, spiritual intelligence 0.000. the two variables simultaneously contribute to the stress of medical personnel with the opposite effect of 58.4%. Other factors outside the focus of the study affected 41.6%. The higher the social support and intelligence of medical personnel, the lower the stress faced by medical personnel.

The Effect of Online Affirmation and Peer Support Techniques on The Stress of Medical Personnel

The COVID-19 pandemic is a major challenge for health workers in facing the crisis. The stress they face not only poses a risk to them physically but also mentally (Lai et al., 2020; Mo et al., 2020). Affirmation as a stress management strategy is self-strengthening by instilling positive sentences that are repeated into the subconscious mind so that a negative perception of events occurs in the environment. Affirmative intervention is a cognitive therapy strategy that reflects positive values and beliefs that can become a buffer against stress. A study in China shows good results about the effect of self-affirmation on the decline of society in the face of the COVID-19 pandemic (during 7 days of intervention). This therapy is free of charge, requires no special place or equipment, and does not require professional guidance. Thus this therapy is easy and comfortable to do (Zainiyah et al., 2018; Li et al., 2020; Liu et al., 2021)

COVID-19 requires physical social distance, this has triggered the use of online media in all aspects including the health sector. Previous study shows that smartphones are effective as a

Table 2 Changes in stress levels before and after the online affirmation and support group intervention in the control group (n=30) and intervention group n = 25

Perceived stress scale (PSS)	Control Group							Intervention Group						
	Before		After		Mean Rank	95% CI Lower-Upper	p value f	Before		After		Mean Rank	95% CI Lower-Upper	p value
	f	%	f	%				%	f	%	f			
Normal	3	10.0	6	20.0				-	-	15	60	8.200	7.217-9.183	0.000
Low stress level	18	60.0	20	66.7	0.867	-0.603 - 2.337	0.238	2	8	10	40			
Medium stress level	8	26.7	4	13.3				9	36	-	-			
High stress level	1	3.3	-	-				14	56	-	-			

Change	Mean Rank	95% CI Lower-Upper	p value
Stress Level	-1.420	-2.467 – (-0.373)	0.009

means of reducing stress programs. The widespread use of technology by all groups can be used to improve the health status of individuals and groups (Economides et al., 2018). COVID-19 has had a changing impact on the well-being of medical personnel. The risk of infection and death, especially in the presence of real data, makes this task a stressor. This condition makes medical personnel continue to experience crisis and stress syndrome. With this in mind, strategies for maintaining mental health at both the individual and group level are important.

The results showed that there was a significant effect between online affirmation intervention and peer support on reducing stress levels of medical personnel. The mental strengthening of medical personnel is carried out starting at the level of the medical personnel themselves to the group. Each individual will perceive all the things that happen in the environment and everything that they experience. Negative perceptions can cause anxiety and excessive stress. Positive affirmation or self-talk is a cognitive psychology technique used to stop negative cognition that can cause anxiety, depression, and pessimism that interfere with one's work performance. This intervention has been shown to be effective in several studies in the athlete group, cancer treatment, renal failure treatment, preeclampsia treatment, adherence to rehabilitation programs (Hamilton et al., 2011; Boutin-Foster et al., 2016; Cholifah et al., 2017; Kusumastuti et al., 2017; Muniroh & Wardani, 2018; Wijaya & Rahayu, 2019). In this study, besides doing positive affirmations, medical personnel also reinforced each other. Several studies have shown that support groups can be a part of stress management, in groups of people with diabetes mellitus, groups of people with infertility and interventions for medical personnel to deal with emotional changes in the workplace (Heisler et al., 2008; Grunberg et al., 2018; Taylor et al., 2018). A sense of togetherness that this pandemic disaster is a joint disaster. Reinforcement from groups who have similar obligations and face the same risks will have a positive effect on the psychological health of medical personnel.

Table 3 The influence of social support and spiritual intelligence on medical personnel' stress

Anova Test		Variabel	Unstandardized Coefficients		Sig	Adjusted R Square
F	Sig		B	Std. Error		
38.952	0.000	Constant	23.844	1.643	0.000	0.584
		Social Support	-0.001	0.032	0.978	
		Spiritual Intelligence	-0.266	0.031	0.000	

One group support strategy offered to maintain the mental health of medical personnel in the face of this pandemic is "Battle Buddies"(Albott et al., 2020)

Relationship Between Social Support and Stress of Medical Personnel

The community as consumers of health services has a very distribution of stress on medical personnel. Kackin et al in 2020 wrote that nurses caring for patients with COVID-19 were experience negative psychosocial impacts. This is due to tiring changes in work patterns but also facing a community situation due to stigma. Witnessing the high number of morbidity and mortality rates and even co-workers themselves creates great psychological stress. Social support from all circles is important to maintain the psychological well-being of health workers. Psychological resilience is needed by health workers in order to provide excellent service. Good social support from various sources will increase the psychological resilience of medical personnel and health workers (Kackin et al., 2020; Kılınç and Sis Çelik, 2020).

Stigma is one of the major obstacles to improving mental health. Stigma in the community can be formed from hoaxes circulating amidst the swiftness of information via social media. The news can cause psychosomatic symptoms that trigger public anxiety. Furthermore, it affects people's behavior towards health workers, such as the incidence of evictions from rented houses, refusal in public transportation and rejection of the bodies of patients and nurses who are confirmed by COVID-19. However, like two blades, social media can also be used as an effective educational media in promoting the prevention of COVID-19. This is due to the high number of users that can reach many people at the same time. Given this, the role of government regulations to ward off hoax news circulating in the community needs to be further improved (Ridlo, 2020; Santoso & Santosa, 2020).

Other support that is no less important can even be a factor that has an impact on community social support that comes from these social institutions. Heat etc. 2020 wrote that management must be able to find good strategies to maintain professional retention. The COVID-19 outbreak has made rapid changes, so we all have to be quick and responsive in adapting. All of these changes create stress that lasts a long time with COVID-19 not yet ending. Repetitive chronic stress, if not

resolved properly, will cause traumatic disorders (Heath, Sommerfield and von Ungern-Sternberg, 2020). The results of online positive affirmation interventions in the WhatsApp group for 4 weeks. In this group medical personnel communicate with each other and provide support between them.

The results showed that social support simultaneously with spiritual intelligence is a factor that affects the stress of medical personnel. The COVID-19 pandemic is a prolonged stressful and it cannot be ascertained that in the end, WHO has set a new normal era. The length of the pandemic period requires health workers to be able to maintain mental status. Stress conditions that are not managed properly for a long time will cause health problems, diseases, somatic disorders and functional disorders. Handling stress as early as possible is needed so that individuals do not fall into Post Trauma Distress syndrome. Group support and a sense of community can reduce stress due to a lack of social support outside the hospital (Wong et al., 2020).

The length of this pandemic period has made public obedience to loosen up. These conditions can affect social support for health workers. Amid the diversity of views that exist in the community, health workers must still be at the forefront of carrying out their duties. All of this is a form of fulfilling the professional oath. Public education needs to be improved with an approach that fits the target. The use of foreign languages in terms related to COVID-19 makes not all people understand well. For this reason, it is necessary to replace the foreign language with Indonesian that can be understood by all people. Besides that, there is another problem that is no less important, namely the problem of "hoaxes" or fake news. Hoaxes can lead to public opinion and form a stigma that affects their attitude in implementing the recommended Health protocol. The rapid use of online media and social media has become the most widely used medium for broadcasting fake news. The detrimental effects of misinformation on social media are faster in spreading the corona virus itself. It provides a wide range of critique and consequences for Health. Thus the public is advised to be careful and able to filter information from social media (Barua et al., 2020). Freedom of media must remain wise by considering the benefits of society. Next, the role of religious figures as people heard in issuing fatwas must be more proactive down to the lowest level of the

structure in society. In several incidents, the fatwas of the Indonesian Ulema Council and religious organizations such as Nahdatul Ulama and Muhammadiyah have not been well socialized in the community. This can lead to conflicts such as events in Gorontalo, Bandung, South Sulawesi, East Jakarta and Banyu Mas, Central Java (Santoso & Santosa, 2020).

COVID-19 is a crisis faced globally. No matter how bad the conditions are to maintain mental well-being, we must be able to see the positive aspects of every incident. Learn from the experience of the SARS outbreak that occurred in 2013 that the crisis has increased solidarity among staff due to friendship and common problems. Social support and high hospital institutional support contribute to reducing anxiety and stress faced by health workers. Institutions must provide adequate support, Infection control training, support existing materials that offer risks as a platform for health care to remain in the profession. Psychological and mental support services as well as stress management training to increase the psychological resilience of health workers (Chou et al., 2020; Kim et al., 2020; Labrague & de los Santos, 2020; Labrague & de los Santos, 2020)

Relationship Between Spiritual Intelligence and Nurse Stress

Spiritual intelligence in this study has a significant effect on the stress level of health workers. This is in accordance with the results of research at a hospital in East Kalimantan. High spiritual intelligence has a high positive effect on organizational commitment, which will then affect the performance of health workers (Kaur et al., 2013; Haryono et al., 2018). Health Workers in carrying out their duties, providing Health services often face unforeseen and emergency conditions. This condition was inevitable even before the COVID-19 pandemic occurred. Because of the nature of the profession it is this that places them at high risk of exposure to and at risk for psychosocial disorders. A study conducted in 2015 to 2016 has shown the importance of training to increase spiritual intelligence for health workers, especially nurses. These results show that in the pre-COVID-19 period spiritual intelligence was important to reduce stress for health workers, especially nurses (Tulenko, 2021).

Nurses are health workers who have the most and longest interactions with patients.

When the patient is cared for, the nurse is the first to stand by the patient and assess the response when an emergency occurs. The nurse provides assistance with basic needs when the patient is away from family and loved ones. In the era of the COVID-19 pandemic, aerosol assistance is an action that has a high risk of transmission and transmitting disease to families. The use of Personal Protective Equipment (PPE) for a long time disturbs the integrity of the skin. Witnessing and caring for many sick people and co-workers themselves being exposed to even death is a stressor that can affect the psychosocial resilience of nurses (Heinzerling et al., 2020; Hu et al., 2020; Jeon et al., 2020; Park, 2020). A qualitative study that describes the experience of health workers in dealing with the COVID-19 outbreak states, the awareness that they still have to provide the best service and take full responsibility for the welfare of patients amid physical and emotional exhaustion as a form of professional dedication, this pandemic is a unique experience that provides challenges and motivation to survive (Liu et al., 2020).

Loyalty of health workers to the professional oath is the main asset for them to manage stress that occurs. it is very much influenced by spiritual intelligence. Spiritual intelligence can strengthen the belief and personality of health workers in improving services to clients. Health workers, especially nurses, provide holistic care, namely bio, psycho, social and spiritual. So before they give good spiritual care to patients, they must first have good spiritual intelligence as well. Research shows spiritual care training for nurses can improve the quality of nursing care. Spiritual services to patients can reduce anxiety, increase satisfaction, and even reduce hospitalization days and the quality of life for patients in general (Riahi et al., 2018; Beni et al., 2019; Pfefferbaum & North, 2020)

It is not only health workers who must have high spiritual intelligence. The impact of COVID-19 is a common problem that requires government and community cooperation from various groups. High spiritual intelligence will provide a high ability to survive the psychological disorders caused by COVID-19. One of the spiritual domains is the relationship with God Almighty or in this case the religious aspect (Pirutinsky et al., 2020). Realizing the increasing need for health personnel services in this pandemic era, the community, health institutions

and the government need to cooperate to reduce the work pressure they face. Compliance with the Health protocol is one of the keys to breaking the chain of transmission of COVID-19.

CONCLUSION

Online affirmation techniques and group support are effective at reducing the level of stress faced by health workers caring for patients with COVID-19. Social support from various sources is very necessary for the mental resilience of health workers. Social support and spiritual intelligence have a significant effect on stress for health workers.

Maintaining the mental health of health workers is essential to public health. Stigma and misinformation have detrimental consequences for both individuals and healthcare providers. The government should be able to stop the stigma by regulating the social information system in an effort to maintain the mental resilience of nurses. Health service provider institutions should be able to make continuous efforts to improve the welfare of health workers both materially and psychosocially. Online affirmation techniques and group support by providing networks to improve communication between health workers can be used as strategies to reduce stress for health workers.

ACKNOWLEDGEMENT

REFERENCES

Ahoei, K., Faramarzi, M. & Hassanzadeh, R. 2017. The Relationship between Spiritual Intelligence and Psychological Well-being in Women with Breast Cancer. *Shiraz E Medical Journal*, 18 (10): 4–9. https://doi.org/10.5812/semj.15103

Albott, et al. 2020. Battle Buddies: Rapid Deployment of a Psychological Resilience Intervention for Health Care Workers during the COVID-19 Pandemic. *Anesthesia and Analgesia*, 131 (1): 43–54. https://doi.org/10.1213/ANE.0000000000004912

Bahl, P., Doolan, C., Silva, C., Chugtai, A.A., Bourouiba, L., Maclntyre, C.R. 2020. Airborne or Droplet Precautions for Health Workers Treating COVID-19?. *Journal of Infectious Disease*, 189: 1-8. https://doi.org/10.1093/infdis/jiaa189

Barua, et al. 2020. Effects of Misinformation on COVID-19 Individual Responses and Recommendations for Resilience of Disastrous Consequences of Misinformation. *Progress in Disaster Science*, 8: 1-9. https://doi.org/10.1016/j.pdisas.2020.100119

Barzilay, R. et al. 2020. Resilience, COVID-19-related Stress, Anxiety and Depression during the Pandemic in a Large Population Enriched for Healthcare Providers. *Translational Psychiatry*, 10 (291): 1-8. https://doi.org/10.1038/s41398-020-00982-4

Beni, K.N., Dewanti, N., Yanriatuti, I., Prakosa, M.M. & Purwanza, S. 2019. Systematic Review Spiritual Intelligence Roles to Improve the Quality of Nursing Care : A Systematic Review. *Jurnal Ners*, 14 (3): 93–97. Available at: http://dx.doi.org/10.20473/jn.v14i3.16952

Blake et al. 2020. Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. *International Journal of Environmental Research and Public Health*, 17 (9): 1-15. https://doi.org/10.3390/ijerph17092997

Boutin-Foster et al. 2016. Results from the Trial Using Motivational Interviewing, Positive Affect, and Self-affirmation in African Americans with Hypertension (TRIUM PH). *Ethnicity and Disease*, 26 (1): 51–60. https://doi.org/10.18865/ed.26.1.51

Chan, S.F. & la Greca, A. 2013. *Perceived Stress Scale (PSS)*. Encyclopedia of Behavioral Medicine. http://dx.doi.org/10.1007/978-1-4419-1005-9_773

Chen et al. 2020. Mental Health Care for Medical Staff in China During the COVID-19 Outbreak. *The Lancet Psychiatry*, 7 (4): 15–16. https://doi.org/10.1016/S2215-0366(20)30078-X

Cholifah, N., Fahrida, R. & Hartinah, D. 2017. Pengaruh Pemberian Afirmasi Positif Terhadap Perubahan Psikologis Ibu Hamil Dengan Pre Eklampsia di Klinik Kandungan RSUD Ra Kartini Kabupaten Jepara

Tahun 2017. *Indonesia Jurnal Perawat,* 2 (2): 80–86. https://ejr.stikesmuhkudus.ac.id/index.php/ijp/article/view/463/336

Chou et al. 2020. Epidemiology of and Risk Factors for Coronavirus Infection in Health Care Workers: A Living Rapid Review. *Annals of Internal Medicine*, 173 (2): 120–136. https://doi.org/10.7326/M20-1632

Economides et al. 2018. Improvements in Stress, Affect, and Irritability Following Brief Use of a Mindfulness-based Smartphone App: A Randomized Controlled Trial. *Mindfulness*, 9 (5): 1584–1593. https://doi.org/10.1007/s12671-018-0905-4

El-Zoghby, S.M., Soltan, E.M. & Salama, H.M. 2020. Impact of the COVID-19 Pandemic on Mental Health and Social Support among Adult Egyptians. *Journal of Community Health*, 45 (4): 689–695. https://doi.org/10.1007/s10900-020-00853-5

Esfahani, S.T. & Sadeghi, A. 2015. Relationship Between Spiritual Intelligence and Transformational Leadership. *International Journal Social Science*, 5: 51–60. http://ijss.srbiau.ac.ir/article_8147_ef8a82349acb-581658440d1bc66c4b36.pdf

Grunberg, P.H., Dennis, C., Costa, D.D. & Zelkowitz, P. 2018. Infertility Patients Need and Preferences for Online Peer Support. *Reproductive Biomedicine and Society Online*, 6: 80–89. https://doi.org/10.1016/j.rbms.2018.10.016

Hamilton et al. 2011. Using a Positive Self-talk Intervention to Enhance Coping Skills in Breast Cancer Survivors: Lessons from a Community based Group Delivery Model. *Current Oncology*, 18 (2): 46–53. https://doi.org/10.3747/co.v18i2.706

Haryono, S., Rosady, F. & MdSaad, M.S. 2018. Effects of Emotional and Spiritual Intelligence on Job Performance among Temporary Nurses at Abdul Riva'i Regional General Hospital, Berau District, East Kalimantan Province, Indonesia. *Management Issues in Healthcare System*, 4 (1): 42–54. https://doi.org/10.33844/mihs.2018.60231

Heath, C., Sommerfield, A. & Ungern-Sternberg, B.S.V. 2020. Resilience Strategies to Manage Psychological Distress among Healthcare Workers during the COVID-19 Pandemic: a Narrative Review. *Anaesthesia*, 75 (10): 1364–1371. https://doi.org/10.1111/anae.15180

Heinzerling et al. 2020. Transmission of COVID-19 to Health Care Personnel During Exposures to a Hospitalized Patient — Solano County, California, February 2020. *MMWR (Morbidity and Mortality Weekly Report)*, 69 (15): 472–476. https://doi.org/10.15585/mmwr.mm6915e5.

Heisler, M., Vijan, S., Makki, F. & Piette, J.D. 2008. Diabetes Control with Reciprocal Peer Support Versus Nurse Care Management: A Randomized Trial Michele. *Bone*, 23 (1): 1–7. https://doi.org/10.7326/0003-4819-153-8-201010190-00007

Hu, K., Fan, J., Li, X., Gou, X., Li, X. & Zhou, X. 2020. The Adverse Skin Reactions of Health Care Workers Using Personal Protective Equipment for COVID-19. *Medicine*, 99 (24), 1-5. https://doi.org/10.1097/MD.0000000000020603

Jeon et al. 2020. Protection of Healthcare Workers Against COVID-19 at a Large Teaching Hospital in Seoul, Korea. *Yonsei Medical Journal*, 61 (7): 631–634. https://doi.org/10.3349/YMJ.2020.61.7.631

Kackin, O., Ciydem, E., Aci, O.S. & Kutlu, F.Y. 2020. Experiences and Psychosocial Problems of Nurses Caring for Patients Diagnosed with COVID-19 in Turkey: A Qualitative Study. *International Journal of Social Psychiatry,* 67 (2): 158-167. https://doi.org/10.1177/0020764020942788

Kaur, D., Sambasivan, M. & Kumar, N. 2013. Effect of Spiritual Intelligence, Emotional Intelligence, Psychological Ownership and Burnout on Caring Behavior of Nurses: a Cross-sectional Study. *Journal of Clinical Nursing,* 22 (21-22): 3192-3202. http://dx.doi.org/10.1111/jocn.12386

Kim, Y.-J., Lee, S.-Y. & Cho, J.-H. 2020. A Study on the Job Retention Intention of Nurses Based on Social Support in the COVID-19 Situation. *Sustainability*, 12 (18): 1-9. https://doi.org/10.3390/su12187276

Kılınç, T. & Çelik, A.S. 2020. Relationship Between the Social Support and Psychological Resilience Levels Perceived by Nurses during the COVID-19 Pandemic: A study from Turkey. *Perspectives in Psychiatric Care*, 1–9. https://doi.org/10.1111/ppc.12648

Kusumastuti, I., Iftayani, I. & Noviyanti, E. 2017. Efektivitas Afirmasi Positif dan Stabilisasi Dzikir Vibrasi sebagai Media Terapi

Psikologis untuk Mengatasi Kecemasan pada Komunitas Pasien Hemodialisa. *Jurnal Tarbiyatuna*, 8 (2): 123–131. http://journal.ummgl.ac.id/index.php/tarbiyatuna/article/view/1818

Labrague, L.J. & de los Santos, J.A.A. 2020. Fear of COVID-19, Psychological Distress, Work Satisfaction and Turnover Intention among Frontline Nurses. *Journal of Nursing Management*, 29: 395-403. https://doi.org/10.1111/jonm.13168

Labrague, L.J. & de los Santos, J.A.A. 2020. COVID-19 Anxiety among Front-line Nurses: Predictive Role of Organisational Support, Personal Resilience and Social Support. *Journal of Nursing Management*, 28 (7): 1653–1661. https://doi.org/10.1111/jonm.13121

Lai et al. 2020. Factors Associated with Mental Health Outcomes among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Network Open*, 3 (3): 1-12. https://doi.org/10.1001/jamanetworkopen.2020.3976

Langdon, R.R., Biggs, H.C. & Rowland, B. 2016. Australian Fly-in, Fly-out Operations: Impacts on Communities, Safety, Workers and Their Families. *Work*, 55 (2): 413–427. https://doi.org/10.3233/WOR-162412

Li et al. 2020. Self-affirmation Buffering by the General Public Reduces Anxiety Levels during the COVID-19 Epidemic. *Acta Psychologica Sinica*, 52 (7): 886–894. https://doi.org/10.3724/SP.J.1041.2020.00886

Liao et al. 2020. Emergency Stress Management among Nurses: A Lesson from the COVID-19 Outbreak in China- A Cross-Sectional Study. *Journal of Clinical Nursing*. https://doi.org/10.1111/jocn.15553

Liu, Q., Luo, D., Haase, J.E., Guo, Q., Wang, X.Q., Liu, S., Xia, L., Liu, Z., Yang, J. & Yang, B.X. 2020. The Experiences of Health-care Providers during the COVID-19 Crisis in China: a Qualitative Study. *The Lancet Global Health*, 8 (6): 790-798. https://doi.org/10.1016/s2214-109x(20)30204-7

Liu, Z., Qiao, D., Xu, Y., Zhao, W., Yang, Y.,Wen, D., Li, X., Nie, X., Dong, Y., Tang, S., Jiang, Y., Wang, Y., Zhao, J. & Xu, Y. 2021. The Efficacy of Computerized Cognitive Behavioral Therapy for Depressive and Anxiety Symptoms in Patient with COVID-19: Randomized Controlled Trial. *Journal of*

Medical Internet Research, 23 (5): 1-15. https://doi.org/10.2196/26883

Lohmann et al. 2019. Psychological Wellbeing in a Resource-limited Work Environment: Examining Levels and Determinants among Health Workers in Rural Malawi. *Human Resources for Health*, 17 (1): 1–11. https://doi.org/10.1186/s12960-019-0416-y

Mays, D. & Zhao2, X. 2017. The Influence of Framed Messages and Self-Affirmation on Indoor Tanning Behavioral Intentions among 18 to 30 Year Old Women. *Physiology and Behavior*, 176 (3): 139–148. https://doi.org/10.1037/hea0000253

Mo et al. 2020. Work Stress among Chinese Nurses to Support Wuhan in Fighting Against COVID-19 Epidemic. *Journal of Nursing Management*, 28 (5): 1002–1009. https://doi.org/10.1111/jonm.13014

Muniroh, S. & Wardani, I.Y. 2018. Positive Affirmation as an Intervention of Inequality in Urban Systemic Lupus Erythematosus Problems. *Jurnal Ilmu Keperawatan Jiwa*, 1 (2): 62–68. https://doi.org/10.32584/jikj.v1i2.149

Nie et al. 2020. Psychological Impact of COVID-19 Outbreak on Frontline Nurses: A Cross-sectional Survey Study. *Journal of Clinical Nursing*, 29 (21–22): 4217–4226. https://doi.org/10.1111/jocn.15454

Park, S.H. 2020. Personal Protective Equipment for Healthcare Workers during the COVID-19 Pandemic. *Infection & Chemotherapy*, 52 (2): 165–182. https://doi.org/10.3947/ic.2020.52.2.165

Pfefferbaum, B. & North, C.S. 2020. Mental Health and the COVID-19 Pandemic. *New England Journal of Medicine*, 383 (6): 510–512. https://doi.org/10.1056/NEJMp2013466

Pirutinsky, S., Cherniak, A.D. & Rosmarin, D.H. 2020. COVID-19, Mental Health, and Religious Coping Among American Orthodox Jews. *Journal of Religion and Health*, 59 (5): 2288–2301. https://doi.org/10.1007/s10943-020-01070-z

Pollock et al. 2020. Interventions to Support the Resilience and Mental Health of Frontline Health and Social Care Professionals during and Ater a Disease Outbreak, Epidemic or Pandemic: a Mixed Methods Systematic Review. *Cochrane Database of Systematic Reviews,* 11: 1-162. https://doi.org/10.1002/14651858.cd013779

Riahi et al. 2018. Assessing the Effect of Spiritual Intelligence Training on Spiritual Care Competency in Critical Care Nurses. *Journal of Medicine and Life*, 11 (4): 346–354. https://doi.org/10.25122/jml-2018-0056

Ridlo, I.A. 2020. Pandemi COVID-19 dan Tantangan Kebijakan Kesehatan Mental di Indonesia. *INSAN Jurnal Psikologi dan Kesehatan Mental*, 5 (2): 155-164. https://doi.org/10.20473/jpkm.v5i22020.162-171

Santoso, D.S. & Santosa, A. 2020. *COVID-19 Dalam Ragam Tinjauan Perspektif*. D.I.Yogyakarta: MBrigee Press. http://lppm.mercubuana-yogya.ac.id/wp-content/uploads/2020/07/BUKU-RAPID-RESEARCH-COVID-UPDATE-1.pdf

Serrano-Ripoll et al. 2020. Impact of Viral Epidemic Outbreaks on Mental Health of Healthcare Workers: a Rapid Systematic Review and Meta-analysis. *Journal of Affective Disorders*, 277: 347–357. https://doi.org/10.1016/j.jad.2020.08.034

Taylor et al. 2018. Can Schwartz Center Rounds Support Healthcare Staff with Emotional Challenges at Work, and How do They Compare with Other Interventions Aimed at Providing Similar Support? A Systematic Review and Scoping Reviews. *BMJ Open*, 8 (10): 1-16. https://doi.org/10.1136/bmjopen-2018-024254

Tulenko, K. 2021. My COVID-19 Dream: Training Enough Health Worker. *The Lancet Respiratory Medicine*, 9 (3): e26. Available at: https://doi.org/10.1016/S2213-2600(21)00016-3

Wang et al. 2020. The Psychological Impact of COVID-19 Pandemic on Medical Staff in Guangdong, China: a Cross-Sectional Study. *Psychological Medicine,* 1-9. https://doi.org/10.1017/S0033291720002561

Wijaya, F. & Rahayu, D.A. 2019. Positive Affirmation on Coping Mechanism of Chronic Renal Failure Patients. *Jurnal Ilmu Keperawatan Jiwa,* 2 (1): 7–12. https://doi.org/10.32584/jikj.v2i1.246

Wong et al. 2020. Adapting Lessons From SARS for the COVID-19 Pandemic—Perspectives From Radiology Nursing in Singapore. *Journal of Radiology Nursing*, 39 (3): 164–167. https://doi.org/10.1016/j.jradnu.2020.06.008

Zainiyah, R., Dewi, E.I. & Wantiyah. 2018. Pengaruh Teknik Relaksasi Afirmasi terhadap Stres Mahasiswa yang Menempuh Skripsi di Program Studi Ilmu Keperawatan Universitas Jember (Effect of Affirmation Relaxation Technique on Stress of Students Taking a Final Project in School of Nursing, Jember University). *Pustaka Kesehatan*, 6 (2): 319–322. https://doi.org/10.19184/pk.v6i2.7781