

Differences in Anxiety Levels of Health Workers before and after Covid-19 Vaccination

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ABSTRACT

Background: The rapid spread of the disease can cause anxiety because it is crucial for health workers to get the Covid-19 vaccine to boost the immune system at work. This study aimed to determine differences in anxiety levels before and after receiving the first dose of the Covid-19 vaccine among medical personnel.

Methods: This study used a retrospective study with a comparative method with a cross-sectional design and primary data collection through a questionnaire. Results of statistical analysis using Wilcoxon test.

Results: The results showed that before being given the first dose of the vaccine, the number of health workers who experienced severe anxiety was 32 (72.8%). Moderate anxiety was 12 people (27.3%). after being given the first dose of the vaccine, the number of health workers who experienced severe anxiety was as many as 14 people (31.8%), moderate anxiety as many as 24 people (54.6%) and mild anxiety as many as six people (13.6). The Wilcoxon test showed a P-value = 0.000.

Conclusion: Differences in the anxiety levels of health workers before and after being given the first dose of the Covid-19 vaccine. Presenting the first dose of vaccine can reduce anxiety in health workers.

I. Introduction

The novel coronavirus disease (COVID-19) is infecting and killing more people every day, creating a global health crisis. Various countries have attempted to stem the spread by applying basic principles of social clustering and testing. Health workers around the world have been at the forefront of preparedness and management of this pandemic ([Puspitasari et al., 2021](#)). Critical medical crises lead to medical restructuring and restructuring to support emergency services, medical intensive care units, and post-discharge units. Medical professionals mobilized all resources to provide emergency relief in a generally uncertain situation. Concerns have been raised about the mental health, psychological adjustment and recovery of healthcare workers caring for COVID-19 patients. The disease nature of the COVID-19 pandemic has heightened an overall atmosphere of vigilance and anxiety, especially among healthcare workers, due to various causes, including the rapid spread and transmission of COVID-19. Severity of symptoms caused in some regions, number of people infected, lack of knowledge about the disease, number of deaths among health care workers. ([El-Hage et al., 2020](#)). SARS-CoV-2 (COVID-19) has affected the whole world since it started in Wuhan. The World Health Organization (WHO) declared an international emergency on 30 January 2020, followed by a “pandemic” declaration on 11 March 2020 ([Suprayitno et al. 2020](#)). There is currently no treatment or vaccine for novel coronavirus disease (COVID-19). Vaccine development is still in progress. The number of infections and deaths is increasing daily ([Lu et al., 2020](#)).

Uneasiness could be a typical response to pending and unforeseen circumstances such as the coronavirus widespread. Conceivable stress-related responses in response to the coronavirus widespread may incorporate changes in concentration, fractiousness, uneasiness, sleep deprivation, decreased efficiency, and interpersonal conflict, but are particularly pertinent to straightforwardly expected

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bunches ([Stankovska et al., 2020](#)). In expansion to the risk of the infection itself, there's no question that isolate measures practiced in numerous nations have unfavorable mental impacts, advance expanding stretch indications. The inflexibility of indications depends mostly on the length and degree of the isolate, sentiments of forlornness, fear of disease, deficiently information, and shame in more imperiled bunches, comprehend psychiatric clutters, healthcare specialists, and individuals with moo financial status ([Greenberg et al., 2020](#)). Push can too be caused by organizational variables, such as consumption of individual defense hardware, concerns approximately not being able to supply competent care in case sent to a modern setting, stresses around quickly changing data, need of get to to up-to-date data and communication, need of certain medicament, deficiencies of ventilators and seriously care unit beds required to care for the surge of basically sick patients and significant changes in their every day social and family lives. Other distinguished hazard variables, counting feeling insufficiently bolstered, uneasiness almost one's wellbeing, and fear of spreading malady into the domestic to family individuals or others, were not recognized. fast get to to screening tests through word related wellbeing in case required, segregation, instability, and social disgrace, intemperate workloads, and uncertain connections ([El-Hage et al., 2020](#)).

This study aimed to determine differences in anxiety levels before and after receiving the first dose of the Covid-19 vaccine among medical personnel.

II. METHODS

This study used a cross-sectional study design to determine medical personnel's anxiety before and after receiving the Covid-19 vaccination. The population is the medical staff who work in hospitals in the Pamekasan district with a sampling technique that is a total sampling of 44 people. This research was conducted during the Covid-19 pandemic, so the entire data collection process was done using Google Forms. Generalized Anxiety Disorder (GAD) using the GAD-7 instrument discovered by Robert L. Spitzer et al. (2006) consists of 7 (seven) item statements with the interpretation of the scores being severe GAD events (21-15), moderate GAD events (14- 8) and the incidence of mild GAD (score 0–7). All questionnaires used in this study were tested for validity and reliability with Cronbach's Alpha test value (α) > 0.70. For the stress level questionnaire = 0.877 and the GAD-7 questionnaire = 0.867. Thus all instruments are declared valid and reliable. The data analysis used is the Wilcoxon test. As the ethical consideration, the researcher use the informed consent, anonymity principle and confidentiality principle.

III. RESULTS

General Data

Characteristic	Frequency	Percentage
Gender		
Male	14	31,80%
Female	30	68,20%
Age (year)		
17-25	4	9,10%
26-35	26	59,10%
36-45	14	31,80%
Education		
Diploma (D3)	18	40,90%
Bachelor (S1)	20	45,50%
Magister (S2)	6	13,60%
Profession		
Nurse	23	52,30%
Midwife	7	15,90%
Doctor	3	6,80%
nutritionists	2	4,60%
Health Analyze	2	4,60%

pharmacist	3	6,90%
Workplace		
Hospital	36	81,80%
Public health center	8	18,20%
Health clinic	1	2,30%

SPECIAL DATA

Health Officials' anxiety before and after getting the Covid-19 vaccination

anxiety before getting the Covid-19	Amount	Percentage	P-value
Heavy	32	72,8%	0,001
Currently	12	27,3%	
anxiety after getting the Covid-19	Amount	Percentage	
Heavy	14	31,8%	
Currently	24	54,6%	
Light	6	13,6%	

IV. DISCUSSION

Health workers are on the front line in providing services during the covid pandemic and are very vulnerable to mental health problems. According to the World Psychiatric Association stated that health workers, during a pandemic, work long hours and often without appropriate protective equipment (PPE), which causes anxiety, depression, post-traumatic stress disorder (PTSD), and insomnia ([Mosolova et al., 2021](#)). The dynamics of the pandemic are developing, but the frequency of depression has not decreased significantly because health workers continue to face different dilemmas. New challenges, the level of depression in health workers is also caused by frequent PCR tests for COVID-19 and frequent PCR tests on health workers because they are at risk of high exposure to positive patients with Covid-19 ([Sharif et al., 2022](#)).

Extreme working conditions and frequent contact with COVID-19 patients affect the mental health of health workers. This is because health workers are the front liners, so they have a higher prevalence of stress and anxiety levels than workers working in other units during the COVID-19 pandemic. Besides that, anxiety for health workers can also be caused because health workers are afraid of being infected and separated from their families ([İlhan & Küpeli, 2022](#)). One way to reduce anxiety levels is by giving vaccines to health workers ([İlhan & Küpeli, 2022](#)). Vaccination is the most effective way to deal with global pandemic problems and reduce or even eliminate some deadly diseases ([LaCour & Davis, 2020](#)). Vaccination programs have effectively controlled the COVID-19 pandemic ([Paul et al., 2022](#)). Vaccination is the essential strategy for sustainable mitigation of the threat posed by Covid-19 by preventing morbidity and mortality and reducing transmission of SARS-CoV-2. Vaccines are a way to prevent infection with SARS-CoV-2 ([Katz et al., 2021](#)).

The antibody broadly utilized in Indonesia is the Covid-19 immunization with the item brand Coronavac. The Sinovac antibody has the fundamental fixings of the Coronavirus (SARS-CoV-2), which has been inactivated (inactivated infection). This immunization has passed stage III clinical trials and is announced secure for utilize. The Sinovac vaccine has exceeded the minimum standard of 50% set by WHO and the FDA. This vaccine has also received an emergency use authorization (EUA) from BPOM, as well as halal certification from the Indonesian Ulema Council (MUI) ([Zatihulwani & Faizah, 2021](#)).

After being injected, the inactivated virus in this vaccine will trigger the body's immune system to produce antibodies that can fight the Coronavirus specifically. That way, if the Coronavirus attacks the body at any time, there are already antibodies that can fight it and prevent disease. The injection dose of the Sinovac vaccine is two doses (0.5 ml per dose) which are injected into the body with a distance between the first injection and the second injection 28 days ([Puspitasari et al., 2021](#)).

The Sinovac vaccine, which has a vaccine efficacy of 65.3% (in Indonesia), was chosen because vaccine recipients tend to experience fewer AEFIs (post-immunization adverse events). The likelihood of symptomatic COVID-19 infection or disease occurring in people vaccinated with the Sinovac vaccine can decrease by 65%. As an illustration, if previously there were 9 million people who could be infected and admitted to hospital because of COVID-19, after the administration of this vaccine, the number could be reduced to only 3 million people.

In the interim, on a person scale, the hazard of individuals who have been immunized will be three times lower to induce sick from COVID-19. This antibody is additionally considered secure since the side impacts that can show up are as it were gentle and brief, for case, pain at the infusion location, muscle throbs, and migraines. The foremost common side impact is torment at the infusion location; on normal, it vanishes inside three days ([Kholidiyah Dina, 2021](#)). Research ([Katz et al., 2021](#)) shows that someone vaccinated shows a lower risk of transmission than someone not vaccinated. Besides, studies from Scotland and England have shown that the risk of transmission of covid 19 with families vaccinated is lower than with families who are not vaccinated. This is in line with research ([Sharif et al., 2022](#)) where several respondents speculated that the COVID-19 vaccine could stop the pandemic and reduce anxiety and depression in health workers by giving vaccines to health workers could create feelings of protection so that feelings of anxiety and depression in health workers declining health. In addition, the study's results ([Mosolova et al., 2021](#)) showed that health workers vaccinated had much lower levels of stress and anxiety compared to health workers who had not been vaccinated ([Suprayitno et al, 2021](#)). These findings again show that the main factors contributing to the level of anxiety are the fear of being infected or infecting family and friends. In addition, the risk group of health workers must be determined at the initial stage of work and given additional social and psychological support

V. CONCLUSIONS

There were differences in the anxiety levels of health workers before and after being given the first dose of the Covid-19 vaccine. Giving the first dose of the vaccine can reduce anxiety in health workers. Giving vaccines, it can provide a sense of comfort to health workers who work in health services so that the fear of being infected can be minimized.

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REFERENCES

- Anmella, G., Fico, G., Roca, A., Gómez-Ramiro, M., Vázquez, M., Murru, A., Pacchiarotti, I., Verdolini, N., & Vieta, E. (2020). Unravelling potential severe psychiatric repercussions on healthcare professionals during the COVID-19 crisis. *Journal of Affective Disorders*, 273, 422–424.
- Belingeri, M., Paladino, M. E., & Riva, M. A. (2020). Beyond the assistance: additional exposure situations to COVID-19 for healthcare workers. *Journal of Hospital Infection*, 105(2), 353.
- El-Hage, W., Hingray, C., Lemogne, C., Yroni, A., Brunault, P., Bienvenu, T., Etain, B., Paquet, C., Gohier, B., & Bennabi, D. (2020). Health professionals facing the coronavirus disease 2019 (COVID-19) pandemic: What are the mental health risks? *Encephale*, S73–S80.
- Greenberg, N., Docherty, M., Gnanapragasam, S., & Wessely, S. (2020). Managing mental health challenges faced by healthcare workers during covid-19 pandemic. *Bmj*, 368.
- İlhan, B., & Küpeli, İ. (2022). Secondary traumatic stress, anxiety, and depression among emergency healthcare workers in the middle of the COVID-19 outbreak: A cross-sectional study. *American Journal of Emergency Medicine*, 52, 99–104.
- Katz, M. A., Harlev, E. B., Chazan, B., Chowers, M., Greenberg, D., Peretz, A., Tshori, S., Levy, J., Yacobi, M., Hirsch, A., Amichay, D., Weinberger, R., Dor, A. Ben, Taraday, E. K., Reznik, D., Chayat, C. B., Sagas, D., Zvi, H. Ben, Berdinstein, R., ... Balicer, R. D. (2021). Early effectiveness of BNT162b2 Covid-19 vaccine in preventing SARS-CoV-2 infection in healthcare personnel in six Israeli hospitals (CoVEHPI). *Vaccine*, 40(3), 512–520.
- Kholidiyah Dina. (2021). The Relationship Between Public Perceptions About The Covid-19 Vaccines With Anxiety When You Will Get The Covid-19 Vaccination. *Jurnal Keperawatan*, 8–20.
- LaCour, M., & Davis, T. (2020). Vaccine skepticism reflects basic cognitive differences in mortality-related event frequency estimation. *Vaccine*, 38(21), 3790–3799.
- Lu, H., Stratton, C. W., & Tang, Y. (2020). Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. *Journal of Medical Virology*, 92(4), 401.
- Mosolova, E., Sosin, D., & Mosolov, S. (2021). Stress, anxiety, depression and burnout in frontline healthcare workers during two peaks of COVID-19 pandemic in Russia. *Psychiatry Research*, 306(April), 114226.
- Paul, K. T., Zimmermann, B. M., Corsico, P., Fiske, A., Geiger, S., Johnson, S., Kuiper, J. M. L., Lievevrouw, E., Marelli, L., Prainsack, B., Spahl, W., & Van Hoyweghen, I. (2022).

- Anticipating hopes, fears and expectations towards COVID-19 vaccines: A qualitative interview study in seven European countries. [SSM - Qualitative Research in Health](#), 2(November 2021), 100035.
- Puspitasari, D. I., Suprayitno, E., & Bustami, B. (2021). Tingkat Stres Kerja Perawat Instalasi Gawat Darurat pada Masa Pandemi Covid-19. [Wiraraja Medika: Jurnal Kesehatan](#), 11(1), 25–29.
- Sharif, S., Amin, F., Hafiz, M., Costa, F., Dahlan, R. H., Vaishya, S., Peev, N., & Benzel, E. (2022). A Year of Pandemic—Comparison of Depression Among Neurosurgeons After the Advent of the COVID-19 Vaccine. [World Neurosurgery](#), 1–13.
- Stankovska, G., Memedi, I., & Dimitrovski, D. (2020). Coronavirus COVID-19 disease, mental health and psychosocial support. [Society Register](#), 4(2), 33–48.
- Supinganto, Agus, Cipta Pramana, Lenny Irmawaty Sirait, Mei Lina Fitri Kumalasari, Moch Irfan Hadi, Kholis Ernawati, Nur Aini Staryo, Emdat Suprayitno, Kusniyati Utami, and Selasih Putri Isnawati Hadi. 2021. “The Use of Masks, as an Effective Method in Preventing the Transmission of the COVID-19, During Pandemic and the New Normal Era: A Review.” *Kusniyati and Hadi, Selasih Putri Isnawati, The Use of Masks, as an Effective Method in Preventing the Transmission of the COVID-19, During Pandemic and the New Normal Era: A Review* (February 7, 2021).
- Suprayitno, Emdat, Syaifurrahman Hidayat, Elyk Dwi Mumpuningtias, Dian Permatasari, and Yulia Wardita. (2021). “Community-Based Health Education Improve Knowledge and Attitudes of COVID-19 Prevention.” [Journal Of Nursing Practice](#) 5(1):136–45.
- Suprayitno, Emdat, Sylvina Rahmawati, Adivtian Ragayasa, and Muchti Yuda Pratama. (2020). “Community Knowledge and Attitudes in Prevention of COVID-19.” [Journal Of Health Science \(Jurnal Ilmu Kesehatan\)](#) 5(2):68–73.
- Suprayitno, Emdat, and Zakiyah Yasin. (2021). “Facilitation of the Role of the Family in Children's Development During the Covid-19 Pandemic at RA Al Hilal Pamolokan.” [Jurnal Empathy Pengabdian Kepada Masyarakat](#) 63–68.
- Zatihulwani, E. Z., & Faizah, R. (2021). Strategies for Reducing Nurse Anxiety in the COVID-19 Treatment Room. *Muhammadiyah Journal of Nursing*. [Jurnal Keperawatan Muhammadiyah](#), 6(4), 11–15.