

# Determinant Factors of Psychological Well Being Nurses on the Frontline Against the Covid-19 Pandemic

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## ABSTRACT

Covid-19 pandemic hurts the physical and psychological health of health workers, especially nurses. Problems experienced during work are anxiety, fear of being infected for themselves and their families, mood disorders, and disruption of psychological well-being. Many factors affect psychological well-being including psychological stress, coping strategies, religiosity, and social support. This research purpose to describe the factors that affect the psychological well-being of nurses in the COVID-19 team in Indonesia. Analytical research is designed with a cross-sectional approach. This research was conducted on 268 nurses of the Covid 19 Team in Indonesia using accidental sampling technique, data was collected using the Psychological Well-Being Scale questionnaire, psychological distress questionnaire-5, Ways of Coping Questionnaire, The Dimensions of Religiosity Scale and The Social Support Rating Scale. Data were analyzed descriptively using univariate analysis, bivariate with Chi-square test, and multivariate with logistic regression test. The results showed that most of the respondents had low Psychological Well Being, high psychological stress, low social support, dominant coping strategies to Emotional Focused Coping, and had low religiosity. Bivariate results described that there is a significant correlations between psychological stress, family support, coping strategies, and religiosity on psychological well-being. Multivariate results found that the most influential factor with the psychological well-being of nurses is psychological stress. It is recommended for nurses on the frontline against the covid-19 pandemic to overcome psychological stress, have good family support, increase religiosity, and are more likely to use problem-focused coping to have good psychological well-being.

**Keywords:** *Psychological Well-Being, Psychological Distress, Coping Strategy, Religiosity, Social Support, Nurses on the Frontline, Covid-19 Pandemic.*

## 1. INTRODUCTION

Corona Virus Disease 2019 (Covid-19) is an infectious disease that has spread rapidly and caused a worldwide pandemic [1]. The number of confirmed COVID-19 cases in 2020 in the world was 12,929,306 people with 567,738 deaths, and in Indonesia, the confirmed cases had reached 78,527 people with 3,710 deaths [2]. The high prevalence of Covid-19 hurts the physical and psychological health of individuals and society.[3]

Psychological impacts during the pandemic include post-traumatic stress disorder, confusion, anxiety, frustration, fear of infection, insomnia and feeling helpless. Even some psychiatrists and psychologists note that almost all types of mild to severe mental disorders can occur in this pandemic condition.[4]

The covid-19 pandemic is also affecting health care systems around the world [5]. The groups most vulnerable to being exposed to COVID-19 are health workers [6]. Health workers, especially nurses, often experience psychological problems when serving positive confirmed patients. The problems experienced include anxiety and fear of being infected for oneself and others, mood disorders, fear of being shunned by others, fear of being stigmatized by others and worrying about personal and social health conditions, experiencing post-traumatic stress which disrupts psychological well-being.[4], [7], [8].

Nurses as the frontline need health protection that aims to improve Psychological well-being during the COVID-19 pandemic [7]. Psychological well-being or Psychological well-being is a condition in which individuals become

prosperous by accepting themselves, having life goals, developing positive relationships with others, becoming independent individuals, being able to control the environment, and continuing to grow personally.[9]

Many factors that influence psychological well-being include individual characteristics, coping strategies, stigma, religiosity factors, personality, psychological stress, quality of life, self-concept, social support and self-efficacy [9], [10]. Of these several factors, the ones that most influence a person's psychological well-being include social support, psychological stress, coping strategies and religiosity.

Based on the explanation above, the researcher is interested in examining the psychological well-being determinants of the Covid-19 team nurses in Indonesia. The objectives of this study are: To be able to determine the determinant factors related to the psychological well-being of nurses in the Covid-19 team in Indonesia. The urgency of this research is: wanting to improve the Psychological well-being of the covid-19 team nurses to improve the mental health of nurses.

**2. MATERIALS AND METHODS**

This research is analytical research with a cross-sectional study method. The dependent variable is psychological well being and the independent variables are psychological stress, coping strategies, religiosity, and social support. This research was conducted in January 2021 in several Indonesian provinces such as West Sumatra, Riau, Riau Islands, Jambi, DKI Jakarta, East Java, and Central Java. The population is all nurses who are part of the Covid-19 team in Indonesia, at least they have served in the covid treatment room for 2 weeks with the accidental sampling technique. Data was collected online using the google form application which was distributed to all nurses in Indonesia via social media.

All questionnaire measuring instruments used in this study had previously passed the Normality and Reliability Test, including a modified questionnaire from the Ryff Psychological Well-Being Scale by Gao & Mclellan with Cronbach's alpha value of 0.767 to measure the Psychological Well-Being of nurses, Psychological distress questionnaire-5 by Batterham PJ with Cronbach's alpha value of 0.889 to measure the stress level of nurses, the Ways of Coping Questionnaire by Folkman and Lazarus with Cronbach's alpha value of 0.801 to assess the type of coping strategy that is more dominantly used by nurses, the questionnaire The Dimensions of

Religiosity Scale by Pearce with a Cronbach's alpha value of 0.905 to measure the religious level of a nurse and the questionnaire The Social Support Rating Scale by Wang et al with a Cronbach's alpha value of 0.907 which was used to measure the social support provided, received by nurses during service as Team Coven at the Hospital.[11]–[15]

Descriptive data analysis through univariate analysis to see the frequency distribution of the dependent and independent variables, Bivariate analysis to see the correlations between the dependent and independent variables with Chi-Square and multivariate tests to purpose the describe factors that most influence the Psychological well-being of the Covid-19 team nurses in Indonesia with the test logistic regression. This research was conducted after obtaining permission to carry out research and has been tested through an ethical test process. This research was implemented based on permit letter number 18/STIKES-SS/I/2021.

**3. RESULTS**

**3.1 Analysis of Respondents Characteristics, Psychological Well Being, Psychological Stress, Social Support, Coping Strategies, and Religiosity.**

The results of this study discuss the frequency distribution of the characteristic variables of the Covid-19 Team nurses which consist of age, gender, last education, length of work, history of chronic illness, and information on living with whom while serving as the Covid-19 team, the variable level Psychological well-being, psychological distress level of nurses while on duty, level of religiosity, tendency to use coping strategies and social support received by nurses.

**Table 1.** Distribution of respondents based on the characteristics of the Covid 19 Team nurses.

Variable	Category	Amount	%
Regional Origin	West Sumatra	70	26,2
	Riau		16,4
	Riau islands	19	7,1
	Jambi	47	17,5
	DKI Jakarta	32	11,9
	East Java	29	10,8
	Central Java	27	10,1
	Total	268	100.0
Gender	Man	112	42
	Woman	156	58
	Total	268	100.0

Age	17 -25 years	76	28,3
	26 – 35 years	122	45,5
	36 – 45 years	46	26,2
	Total	268	100.0
Last education	D3	178	66,4
	S1+Ners	90	33,6
	S2	0	0
	Total	268	100.0
Length of work	< 5 years	134	50,0
	5 – 10 years	88	23,8
	>10 years	46	26,2
	Total	268	100.0
History of chronic disease	Exist	79	29,5
	None	189	70,5
	Total	268	100.0
Where to stay during covid	With family	182	68,0
	Separated from family	86	32,0
	Total	268	100.0

By Table 1, it very well may be seen that the outcomes of research on 268 nurses of the Covid 19 Team in Indonesia were 156 (58%), female respondents, 122 (45.5%) respondents were in the age range 26-35 years, 122 (45.5%) respondents had a history of D3 Nursing education, 134 (50.0%) respondents worked for less than five years, 189 (70.5%) respondents did not have a history of chronic disease, and 182 (68.0%) respondents lived with their families.

**Table 2.** Distribution of respondents based on psychological well-being, psychological stress, religiosity, coping strategies and social support.

Variable	Category	Amount	%
Psychological Well Being	Low	196	73,1
	High	72	26,9
	Total	268	100.0
Psychological stress	Low	184	68,6
	High	84	31,4
	Total	268	100.0
Social support	Low	166	61,9
	High	102	38,1
	Total	268	100.0
Coping Strategy	Emotional Focused Coping	152	56,7
	Problem Focused Coping	116	43,3
	Total	268	100.0
Religiosity	Low	161	60,1
	High	107	39,9
	Total	268	100.0

Table 2 states that most of the respondents, namely 196 (73.1%) have low Psychological Well Being, more than half of the respondents, namely 184 (68.6%) have high psychological distress, more than half of the respondents, namely 166 (61.9%) have low social support, more than half of respondents, namely 152 (56.7%) have a dominant Coping Strategy to Emotional Focused Coping, and more than half of respondents, namely 161 (60.1%) have low religiosity.

### **3.2 Analysis of the Relationship of Psychological Stress, Social Support, Coping Strategies, and Religiosity to Psychological Well Being.**

In the results section, this study discusses the bivariate analysis of the relationship between psychological stress, religiosity, coping strategies and social support with Psychological well-being Nurses for the Covid 19 Team in Indonesia.

**Table 3.** The relationship between psychological stress, religiosity, coping strategies and social support with Psychological well-being Nurses of the Covid 19 Team in Indonesia.

Variable	Psychological Well Being						P-value
	Low		High		Total		
	f	%	f	%	f	%	
Psychological stress							0,012
High	142	72,5	42	58,3	184	68,6	
Low	54	27,5	30	41,7	84	31,4	
Total	196	100	72	100	268	100	
Family support							0,010
Low	128	65,3	38	52,8	166	61,9	
High	68	34,7	34	47,2	102	38,1	
Total	196	100	72	100	268	100	
Coping Strategy							0,006
Emotional Focused Coping	130	66,3	22	30,6	152	56,7	
Problem Focused Coping	66	33,7	50	69,4	116	43,3	
Total	196	100	72	100	268	100	
Religiosity							0,024
Low	141	71,9	20	27,8	161	60,1	
High	55	28,1	52	72,2	107	39,9	
Total	196	100	72	100	268	100	

In view of Table 3, it very well may be seen that there relationship between psychological distress (0.012), social support (0.010), coping strategies (0.006), and religiosity (0.024) on psychological well-being. The majority of low psychological well-being were found in 142 (72.5%) nurses of the Covid 19 Team who had high psychological distress, in 128 (65.3%) nurses who had low social support, in 130 (66.3%) nurses who have a more dominant coping strategy to Emotional Focused Coping, and 141 (71.9%) nurses have low religiosity.

### 3.3 Analysis of determinant factors on Psychological Well Being Nurse Covid 19 Team.

In multivariate analysis, multivariate modelling is carried out by selecting variables that are considered important to be included in the model by maintaining variables that have p-value < 0.05 and removing variables with p-value > 0.05. The output of the variable is gradual starting from the variable that has the largest p-value. The results of the first multivariate modelling analysis can be seen in Table 4 as follows:

**Table 4.** Multivariate Modeling

The results of the multivariate modelling analysis above show that there is one variable that

Variable	B	Wald	P-value	OR	95%CI
Psychological stress	0.026	0.000	0.018	1.931	0.000-0.082
Family support	0.651	2.246	0.042	1.157	0.943-4.062
Coping Strategy	0.264	1.593	0.107	0.182	0.685-5.736
Religiosity	1.011	6.201	0.028	0.364	0.164-0.506

has a P-value > 0.05 so it must be removed gradually from the modelling starting with the variable that has the largest P-value. The variable that was excluded was the coping strategy.

After removing one by one, the change in the OR value for the other variables is seen. There is no change in the OR value > 10% after the variables are removed gradually. The results of the last multivariate modelling can be seen in Table 5 as follows:

**Table 5.** Final Model

The results of the multivariate test showed

Variables	B	Wald	P-value	OR	95%CI
Psychological stress	0.375	6.414	.001	5.363	0.685-7.736
Family support	0.204	9.743	.031	2.300	0.512-4.133
Religiosity	0.748	4.282	.019	1.114	0.040-2.294

that the variables that were significantly related to the psychological well-being of the Covid 19 Team nurses in Indonesia were psychological stress, social support, and religiosity. Nurses who have high psychological distress have 5.3 times the chance to have low psychological well-being, nurses who have low social support have 2.3 times chance to have low psychological well-being, and nurses who have low religiosity have a 1.1 chance times to have low psychological well-being. Psychological distress has the largest OR value, so it tends to be closed that psychological distress is the variable that has the most influence on the psychological well-being of the Covid 19 Team nurses in Indonesia.

## 4. DISCUSSION

### 4.1 Characteristics of Respondents, Psychological Well Being, Psychological Stress, Social Support, Coping Strategies, and Religiosity

The aftereffects of the univariate investigation showed that the greater part of the respondents had low Psychological Well Being. All health workers who are facing tremendous stress due to COVID-19, especially those related to suspected or confirmed cases, due to the high risk of infection, inadequate Personal Protective Equipment, lack of experience in controlling and managing disease, longer working hours, the existence of negative feedback from patients, and the stigma that arises so that it can increase the emergence of psychological problems in health workers such as decreased Psychological Well Being which is characterized by poor self-acceptance, reduced positive relationships with others, reduced independence, lack of mastery of the environment, poor life goals, unclear, as well as slowing personal growth.[16]

Factors related to psychological conditions that are closely related to the Mental Well-Being of wellbeing laborers include female gender who has more responsibilities and higher levels of stress hormones, being married and even having children, having under 5 years of clinical experience working, and work straightforwardly with patients who have been determined to have COVID-19, and those who live with or visit elderly family members or even children who may cause them to stress over bringing the infection into their relatives' homes.

The results of this study are in line with the research of Li, X, Zhou, Y, Xu, X, with the results that the majority of nurses who have work experience of fewer than 2 years tend to show low Psychological Well Being after working in COVID-19 inpatients.[17]

Another result of this study is the high level of psychological distress and the tendency to use Emotional Focused Coping on the nurses of the Covid 19 Team in Indonesia. The psychological burden experienced by nurses will cause a psychological response, namely psychological distress. Psychological distress that arises include feelings of fear of social transmission and spread of the virus, patient death, unknown dimensions of the disease in the work environment and the stigma that society gives to nurses in caring for COVID-19 patients, which causes psychological distress to nurses as the frontline.[18]

Psychological distress is emotional suffering in the form of psychological pressure experienced

by individuals that are inhibiting and can interfere with health, which is generally characterized by symptoms of anxiety and depression [19]. Psychological distress causes the majority of nurses to be more likely to show emotional reactions in solving problems such as getting angry more quickly or preferring to avoid problems or even making negative things as an escape.

There are two sorts of adapting techniques, to be specific issue centered adapting procedures incorporate (1) thinking about approaches to manage pressure and putting forth anticipates further attempts, (2) tolerating the presence of an unpleasant issue, and (3) taking examples from the issue, though Coping systems that attention on feelings incorporate (1) declining to recognize the upsetting occasion, (2) quitting any pretense of attempting to take care of the issue, and (3) supporting sensations of exorbitant pressure.[20]

The aftereffects of this review are in accordance with the exploration of Shechter et al on psychological distress and coping strategies in 657 nurses with the results of psychological distress in nurses such as anxiety (33%), acute stress (57%), and depressive symptoms (48%), and the tendency to use emotionally focused coping on nurses.[21]

The results of this study also show that most nurses have low religiosity and social support. Religiosity can provide a way out for individuals to get a sense of security, courage, and not anxiety in facing various problems of life. Religiosity is a multidimensional construct, considered as a system of beliefs and practices and defined by norms, rules, and rituals, and unites people who share the same beliefs.[22]

Social support is an action that is helpful by involving emotions, providing information, material assistance and positive assessment of individuals in overcoming and dealing with their problems.

The consequences of this review are in accordance with Xie, Jianfei's research on nurses in 7 Chinese states, where the majority of nurses received low social support. The low friendly help for wellbeing laborers during the Covid 19 pandemic can be caused by government policies to stay at home, social distancing restrictions, quarantine, extended office hours, the public stigma for working in the Covid room and the fear of bringing the virus to other family members. [23], [24]

### 4.2 Relationship of Psychological Stress, Social Support, Coping Strategies, and Religiosity with Psychological Well Being

The information found demonstrate that there is a critical negative connection between Psychological distress and Psychological Well Being, where the higher the level of psychological distress, the lower the Psychological Well Being, as well as a significant positive relationship between coping strategies, social support, and religiosity, meaning that the better these factors, the higher the Psychological Well Being.

This finding is in line with other studies which stated that nurses reported severe or very severe psychological distress, anxiety which had a significantly negative relationship with nurses' psychological well-being than other healthcare staff during COVID-19.[25], [26]

Philip and Cherian reported that factors influencing the Psychological Well-Being of medical care laborers during a flare-up incorporate helpless adapting methodologies, insufficient social help, expanded patient association, challenging working conditions, inadequate preparation, quarantine, risk perceived height, disgrace, social disconnection, absence of flexibility and a background marked by physical or emotional wellness issues. Solid proof has additionally been displayed to demonstrate that passionate knowledge capacity predicts parts of Psychological Well-Being and a positive connection between life fulfillment and emotional bliss.[10], [27]

Adapting methodology alludes to an individual's capacity to forestall, limit or control pressure and is a variable that effects Psychological Well-Being. A study showed that someone who tends to use problem focus coping can manage stress better than the people who utilize insufficient adapting, which can hurt their Psychological Well-Being.[28]

Adapting methodologies allude to explicit endeavors, both conduct and mental, that an individual uses to dominate, endure, lessen, or limit distressing occasions. Coping strategies in dealing with disease outbreaks are significantly correlated with the state of mental well-being: if problem-based coping can produce emotions and positive behaviours that lead to better outcomes, while emotion-based coping styles can be associated with serious psychological distress such as post-traumatic stress disorder.[29]

Another result of this study found a positive relationship between social support and Psychological Well-Being. Social support is an individual's perception or experience of support actions obtained by a person through his social associations with others, gatherings, and the bigger local area.[30]

Social support from others helps a person to relieve negative emotions, increase self-efficacy

and overcome stressors in fighting crises such as the COVID-19 epidemic, especially for individuals who have very high levels of psychological distress. An individual who has good social support will have a high quality of life and a low level of psychological stress. Conversely, when perceived social support is low, psychological stress is higher and quality of life is lower. Receiving social support from others is positively related to psychological well-being.[30], [31]

Other results from this study also found a significant positive relationship between religiosity and Psychological Well-Being. Religiosity which is defined as "a person's behaviour and attitudes about a particular religion and its rules, values and practices" is an important strategy in maintaining good Psychological Well-Being during the COVID-19 pandemic when a person is in stressful situations and difficulties in life.

Religiosity has an impact on mental health and the level of happiness of health workers. In addition, religious practices, expressions of faith, and inculcation of spirituality can increase physical, spiritual, and psychological resilience for health workers to get through the pandemic Religiosity shown through prayer, attending religious services, reading the scriptures or meditation can reduce anxiety, traumatic experiences, and psychological stress during this difficult pandemic.[32], [33]

#### **4.3 The determinant factor of Psychological Well Being**

The results of the multivariate analysis of this study stated that the most influential factor on the psychological well-being of nurses was the level of psychological distress. Psychological stress is a process of dynamic interaction between individuals and their environment. Therefore, the stress response does not only depend on the presence of environmental stressors, but also on how these stressors are perceived by the person. Very bad Well-Being.[34]

When faced with an outbreak of an infectious disease or an emerging traumatic experience, people will respond differently according to their coping strategies, the level of social support and the level of perceived stress that greatly influences the person's psychological well-being. The psychological well-being of health workers refers to an individual's positive emotional and psychological functioning and is an important aspect of mental health. Research has shown that stress can have a major impact on psychological well-being.[30]

In line with the results of Heizomi et al's research which states that someone who has a lower level of psychological stress has better

psychological well-being, various types of stressors ranging from daily stress to major life events are reported to have an impact on psychological and physical well-being.[35]

If the stress level persists for a long time, it can lead to more serious psychological problems and will affect psychological well-being. Psychological well-being can be conceptualized as referring to a person's concept of happiness, well-being, interests, and quality of life. When stress occurs, the body will prepare itself by releasing hormones that increase attention and concentration. If the body is exposed to continuous stress, it has the potential to cause various physical and psychological diseases that result in a decrease in Psychological Well Being.[36]

## 5. CONCLUSION

1. Most of the respondents are female, are in the age range of 26-35 years, have a history of D3 Nursing education, have worked for less than five years, have no history of chronic illness, live with family, have low Psychological Well Being, have high psychological distress, have low social support, have a dominant Coping Strategy to Emotional Focused Coping, and have low Religiosity.
2. There is a significant relationship between the variables of Psychological Stress, Social Support, Coping Strategies, and Religiosity with Psychological Well Being.
3. The most influential factor on the Psychological Well-Being of nurses is Psychological distress.

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