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Prevalence factors and strategies for handling health workers' anxiety in providing health services for COVID-19 variants

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ABSTRACT

Introduction: Analysis of health workers' anxiety in providing patient services towards the COVID-19 variant has never been done well. Therefore, this study analyzes factors that affect anxiety among health workers because it has the potential to interfere with health services. The purpose of the study is to analyze the factors that affect the prevalence of anxiety among health workers in providing patient services variant of COVID-19.
Methods: Participants involves health workers who handle patient variant of COVID-19. The data collection was approved by the research ethics committee of Surabaya Islamic Hospital A.Yani. Data source taken in Surabaya and surrounding areas in June 2021 namely N= 300-400 data breeding techniques is purposive sampling, research instrument is in the form of questionnaires by sharing to social media using a google form, data in the univariate analysis is done descriptively to see the respondents' characteristics and bivariate analysis is used to analyze factors affecting anxiety in statistical tests used is regression ordinal.
Results: The results of statistical analysis obtained factors that affect anxiety, namely: female sex obtained = 0.02), age 30 years obtained results= 0.00, working in public health center = 0.08, nursing profession= 0.25, unmarried= 0.00, works outside Surabaya= 0.00, has a child and 2-3 children= 0.00.
Conclusions: The study was conducted to analyze the prevalence factors of health care workers' anxiety in providing care for patients with COVID-19 variants and how the anxiety management strategies that resulted in this greatly contributed to the condition of health workers with psychological problems, namely anxiety.

Keywords: *Prevalence, Strategy, Anxiety*.
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INTRODUCTION

With the rise of news of COVID-19, between 2020 and May 2021, the variant of COVID-19 has occurred in Surabaya and its surroundings, making many parties worried. Health workers who treat COVID-19 patients are a group with a very high risk of exposure. So that it can affect the treatment of patients, including the health workers who contracted this deadly disease. Health workers are often hit by stress, depression, and excessive anxiety because they have to always be on the front line to fight COVID-19.

Some previous studies have analyzed several factors that affect anxiety, such as on prevalence of anxiety using meta-analysis methods obtained results from many depressed health workers. In addition, another previous study analyzed the anxiety on mental health among health care providers using meta-analysis in obtained psychological results on anxiety in most groups of women and age groups 30-39.[1] Moreover, another previous study analyzed mental health in adults and children 2 using cross-sectional online surveys obtained Mental health and endurance issues coexisting in children and adolescents.[2] Study by Pouralizadeh (2020) analyzed conditions and strategies for handling health worker anxiety during a pandemic COVID-19 using Preferred Reporting Items for Systematic Reviews and Meta-Analyses only explains some anxiety conditions.[4]

Although some studies on the prevalence of anxiety and mental health in adults and children have been conducted, factors that affect the anxiety of health workers in providing patient services variant of COVID-19 this study perfected the research that has been done.[1,2,5]

Different phenomena when health workers receive covid-19 variant patients many who experience anxiety with characteristics, fear of it is natural to experience, the anxiety of health workers increased due to the variant of covid-19 that takes a lot of victims, increasing the number of patients every day, and sadly in the increasing place of care to receive patients Variant COVID-19. This level of anxiety of health workers is important to note and needs to be asked about the concern of running out of protective equipment, transmission to the family and, it is also important to associate with the characteristics of respondents such as

the age of marriage status from the area of origin of the workplace.

Therefore, the purpose of the study is to analyze the prevalence factors of health workers' anxiety in providing patient services variants of COVID-19. This research is useful to maintain stability in actualizing the duties and responsibilities of health workers with what to do, maintaining individual mental health, and developing psychological interventions for anxiety that can improve the mental health of health workers during the COVID-19 pandemic.

METHODS

Study Design

This research is a cross-sectional study with a purposive sampling technique that selects the respondents who match the inclusion criteria.

Data Collection

The data collection was approved by the research ethics committee of Surabaya Islamic Hospital Ahmad Yani. The population of this study is all health workers who work both in Surabaya and outside Surabaya in Indonesia. The recommended data was 300-400 participants. The inclusion criteria of this study were health workers who work in health services that accept COVID-19.[6] The data was collected by Whatsapp with the google form application. An online survey contains two components. First, the survey noted socio-demographic characteristics, including age, gender, profession, area of employment residence, and the number of children. Second, the survey included questioner health officer, which is a modification of a widely used and valid instrument namely COVID Stress Scales consisting of 14 question items. The scale rating answers never (0), sometimes (1), often (2), and almost every time (3). This item detects anxiety shared at the peak of the second spread event, namely the variant covid. The final participant score was 35, which was categorized by a score of <14 declared to have no anxiety 14-21 mild anxiety, 21-27 moderate anxiety = 28-41 = severe anxiety >42-56 = panic.[7]

Data analysis

The data were analyzed in univariate analysis in order to look at respondent characteristics and bivariate analysis to analyze factors affecting anxiety using ordinal regression statistical tests.

RESULTS

The survey collected 316 participants, from questionnaires shared to *Whatsapp* groups to be disseminated.

Table 2 Results of Levels of Anxiety in Health Workers in Surabaya Based on table 1. It was obtained demographic characteristics data that respondents were mostly professional nurses, most were women, age ranged from 30-40 years, most were married, worked in hospitals. In addition, most of them have 2-3 kids and outside Surabaya (east java) in facing the COVID-19 pandemic, 16 (5.1%) experienced no anxiety, 131 (41.5%) experienced mild anxiety, 134 (42.4%) experienced moderate anxiety, 35 (11.1%) experienced severe anxiety.

Table 3 patterns in this study experienced moderate and severe anxiety. Sociodemographic factors from 241 female genders experienced mild anxiety (48.1%), from 117 ages > 40 there was moderate anxiety (58.1%), 256 married respondents experienced moderate anxiety (48.8%), 226 worked in hospitals (46.9%) experienced mild anxiety, 187 respondents in Surabaya experienced moderate anxiety (69.0%) and there 138 respondents had 2-3 children (experienced moderate anxiety (57.2%), so the socio-economic data-demographics are at moderate anxiety. Table 4 socio-demographic factors that influence anxiety are female gender, age < 30 years, working in health centers, the nursing profession, unmarried, and outside Surabaya.

Table 1. Characteristics of Socio-demographic Respondents.

Characteristics	Frequency (n)	Percentages (%)
Gender		
Woman	241	76.3
Male	75	23.7
Age		
<30	111	35.1
30-40	85	26.9
>40	120	38.0
Area of work		
Phc	90	28.5
Hospital	226	71.5
Profession		
Doctor	5	1.6
Nurse	277	87.7
Midwife	10	3.2
Work	15	4.7
Nutritionist	9	2.8
Married Status		
Not married	60	19.0
Married	256	81.0
Area of Work		
Outside Surabaya	129	40.8
Surabaya	187	59.2
Number of Children		
No children	57	18.0
One	97	30.7
Two-three	138	43.7
More than three	24	7.6

DISCUSSION

The expectations of COVID-19 patients' health workers running in the middle of time decreased, surprisingly, there was a wave to the 2nd pandemic variant of COVID-19, even in various hospitals adding early beds is reasonable health workers are in moderate anxiety, even tend to be heavy.

This research was conducted when Indonesia experienced a second wave pandemic, namely the COVID-19 variant in June 2021. This study evaluated the anxiety levels of health workers working in Indonesia during the COVID-19 variant pandemic. Data showed that 11.1% of health workers surveyed had high anxiety levels, and 42.4% had moderate anxiety levels. Respondents associated with moderate anxiety levels were the most professional nurses because nurses were applied guards in treating COVID-19 patients. Nurses also have the task of always providing education to patients, and families who do not want to follow health procedures. They also must be prepared to hear the blasphemy of the person who does not want to be regulated in following health procedures. Moderate anxiety is also linked to the age of 40 because health workers the age 40 years and above worry more about the decline of the body's organs. Health workers who have children are even more influential because the family is the main focus in their lives. The factor associated with the level of anxiety that is being answered the most is worrying when there are new patients that may contract the virus.

Individuals who experience anxiety and are currently only focusing on the source of the anxiety and being faced also have thoughts that are focused on caring for patients. When health workers only pay attention to things that are considered important, they are considered

Table 2. Frequency Distribution of Health Workers' Anxiety Levels in Providing Health Care and Services.

Anxiety	Frequency (n)	Percentage (%)
No worries	16	5.1
Mild anxiety	131	41.5
Moderate anxiety	134	42.4
Severe anxiety	35	11.1
Panic	0	0
Total	316	100

Table 3. Distribution of Socioeconomic Characteristic Frequency to Health Workers' Anxiety Levels in Providing Health Care and Services.

	No Worries		Mild Anxiety		Moderate anxiety		Severe Anxiety		Panic		Total	
	brake	%	brake	%	brake	%	brake	%	brake	%	brake	%
Gender												
Woman	11	4.6	116	48.1	89	36.9	25	10.4			241	100
Male	5	6.7	15	20.0	45	60.0	10	13.3			75	100
Age												
< 30	6	6,1	60	60,6	28	28,3	5	5,1			99	100
30 - 40	10	10.0	37	37.0	38	38.0	15	15,0			100	100
> 40	0	0.0	34	29.1	68	58.1	15	12.8			117	100
Area of work												
Phc	6	6.7	25	27.8	44	48.9	15	16.7			90	100
Hospital	10	4.4	106	46.9	90	39.8	20	8.8			226	100
Profession												
Doctor	0	0.0	0	0.0	5	100	0	0.0			5	100
Nurse	16	5.8	124	44.8	105	37.9	32	11.6			277	100
Midwife	0	0.0	5	50.0	5	50.0	0	0.0			10	100
Work	0	0.0	0	0.0	15	100	0	0.0			15	100
Nutritionist	0	0.0	2	22.2	4	44.4	3	33.3			9	100
Married status												
Not married	1	1.7	45	75	9	15.0	5	8.3			60	100
Married	15	5.9	86	33.6	125	48.8	30	11.7			256	100
Area of work	15	11.6	109	84.5	5	3.9	0	0.0			129	100
Outside Surabaya	15	11.6	109	84.5	5	3.9	0	0.0			129	100
Surabaya	1	0.5	22	11.8	129	69.0	35	18.7			187	100
Number of Children												
no children	2	35	41	71.9	10	17.5	4	7.0			57	100
one	7	72	44	45	39	40.2	7	7.2			97	100
two-three	9	43	42	30.4	79	57.2	13	8			138	100
more than three	1	4.2	4	16.7	6	25.0	13	54.2			24	100

Table 4. Characteristics of the Most Influential Respondents.

		Estimate	Itself	
Anxiety	**Gender**			
	Woman	-.797	.002	
	Male	0[a]	.	
	Age			
	<30	-1.453	.000	
	30-40	-.407	.131	
	>40	0[a]	.	
	Area of work	**Estimate**	**Itself**	
	PHC	**.630**	**.008**	**Influential**
	Hospital	**0[a]**	**.**	
	Profession			
	Doctor	**-.330**	**.755**	
	Nurse	**-1.457**	**.025**	**Influential**
	Midwife	**-1.537**	**.079**	
	Work	**-.330**	**.680**	
	Nutritionist	**0[a]**	-	
	Married status			
	Not married	**-1.122**	**.000**	**Influential**
	Married	**0[a]**	-	
	Area of work			
	Outside Surabaya	**-5.025**	**000**	**Influential**
	Surabaya	**0[a]**	-	
	Number of children			
	One	-3.161	39.520	
	Two-three	-2.502	29.064	
	More than three	-1.885		

unimportant so that they can provide positive comments like what other people will do. The difference with researchers was researching the 1st wave where COVID-19 peaked in June – December. The research focuses only on fatigue.[3]

Some researchers in six different countries. Participants were asked to complete an online survey including the demographics and scale of the watershed. A total of 1,057 participants from Oman (n = 155), Saudi Arabia (n = 121), Jordan (n = 332), Iraq (n = 117), United Arab Emirates (n = 147), and Egypt (n = 182) completed the total prevalence of depression, anxiety, and stress were 57%, 40.5%, and 38.1%, respectively, of epidemiological crises that overshadowed youth anxiety.[8] A similar study conducted in Saudi Arabia on May 15-18, 2020, obtained reported anxiety levels are low anxiety (31.5%), moderate (36.1%), and high (32.3%). Participants who reported high levels of anxiety were more likely not to marry, smokers, nurses, radiologists, and respiratory therapists.[9]

This same research was conducted during the pandemic in the United States and Canada, where many people experienced emotional distress, the population from Canada (N = 3479) and the United States (N =3375). Based on the study, Canada and the United States experienced an increase in anxiety, and 22% experienced clinically significant depressive symptoms. The proportion is as follows, based on the cutoff reported in the previous study: Normal (54 %), mild symptoms (23%), moderate symptoms (13%), and severe symptoms (10%). The instrument developed 36-item COVID Stress Scales (CSS) to measure these features, as they relate to COVID-19. Using stress scales is very difficult and finds anxiety in detail conducted during pandemics in the United States and Canada, where many people experience emotional distress, Populations from Canada (N=3479) and the United States (N=3375). from Canada and the United States experienced an increase in anxiety and 22% experienced clinically significant depressive symptoms. The proportion is as follows, based on the cutoff reported before normal (54 %), mild symptoms (23%), moderate symptoms (13%), and severe symptoms (10%).[10] The instrument developed 36-item COVID Stress Scales (CSS) to measure these features, as they relate to COVID-19. Using stress scales is very complete and finds anxiety in detail.

This study uses a modified instrument of the Covid stress scale, anxiety is in moderate anxiety, we must admit that health workers are at the forefront of the spread of the coronavirus outbreak. At the beginning of the covid 19 virus pandemic in 2020, many previous studies were worried about being in a state of severe anxiety may be due to shock about the first outbreak that could cause death, but during the covid 19 pandemic, there was a second wave of health workers who were able to control the psyche. Therefore, it is necessary to pay attention to the health workers who work in their health services work harder because the patients served are Covid patients who die a lot.

This research has limitations. The first is to fill out a few questionnaires, this is due to the short time of 5 days completed, it can be sent but not filled, it could be

because of laziness or because of busy caring for patients the sample size does not include health workers throughout Indonesia. The response rate is low and does not reach the desired power. The anxiety of health workers also affects the rate of pandemic spikes, researchers believe the more anxiety surges health workers get, the more severe it can even reach panic.

On the other hand, the strength of this study is that we surveyed all health workers from various fields to be representatives. In addition, the timing of the study is also appropriate to assess anxiety related to the COVID-19 variant, where the number of cases in Indonesia is very high when compared to other countries that are already free of masks.

Researchers have identified high-risk groups who are more likely to develop anxiety during the COVID-19 pandemic, so clinical hospital leaders must try to strategize how healthcare workers will not become more anxious. This study offers health workers and considers implementing strategies in a better management plan for stress, anxiety, and mental health problems in workers. This strategy offers health officials a voice for policy decision-makers. Researchers suggest several other steps that can be an alternative:[11]

1. Battle Buddies: put psychological energy quickly. The outbreak of the Coronavirus disease 2019 (COVID-19) and its rapid global spread is creating unprecedented challenges to healthcare systems. Substantially attention to the psychological health care of medical personnel. Battle buddies begin by appointing a companion or partner or psychologist or friend of about 2-3 people who can validate stress, direct attention, maintain the focus of service, and help find solutions to challenges. A partner is expected to be the first to instill positive thinking and minimize negative thoughts. The goal of battle formation is to quickly and evenly create partners based on similar professional perspectives, life experiences, and exposure to stress so that a good day can begin. so that it creates a back and forth relationship.
2. Teaching health workers to apply coping strategies Based on the previous study, we can start coping with several steps including:[12]
   (1) Capitalizing on coping strategies similar to positive lifestyle behaviors can greatly improve mental health and well-being. Eat a healthy diet, get regular physical activity, practice good hygiene, and maintain adequate rest between shifts. High-risk behaviors such as overspending, and excessive use of social media related to COVID-19 can harm mental health.
   (2) Mindfulness-based attention programs have been shown to reduce fatigue symptoms in physicians. Research shows that the disposition of attention is associated with a decrease in psychological distress in doctors. Likewise, research has shown that specific relaxation techniques (progressive muscle relaxation) mentoring psychiatrists who routinely carry out psychological refreshments for health workers should be considered.[13]
3. Family, social, and institutional support Health care providers and organizations have an important role in supporting health care staff from all backgrounds in dealing with the psychological impact of a pandemic. Financial support, digital platforms, logistics, and psychological support services may be required according to the needs of each individual. the main mechanisms will be discussed which can be implemented in all hospital locations.[12]
4. Psychological consultation and counseling services through digital platforms in many institutions, must be easily accessible by health workers.[14] This study found that mental health can be creatively creative by forming specific teams designed to provide psychological support. It is critical to support the key resources that hospitals must provide (a comfortable place to rest, necessary PPE training, and access to COVID-19 guidelines and recommendations).

CONCLUSION

This study is an interesting study conducted in Indonesia to analyze the prevalence factors of health workers' anxiety in providing patient services variants of COVID-19. What we can deduce is that the health worker who responded showed moderate anxiety. Strategies in anxiety management plans can reduce anxiety levels among health workers We recommend that more research on anxiety among health workers in the COVID-19 variant pandemic include variables not included in our survey: levels; level of knowledge; optimistic variant of COVID-19 is reduced, confidence about the death rate of COVID19 and factors related to oxygen limitations, drug limitations, death rates, resource needs increased BOR, transmission, the accuracy of using PPE.

DISCLOSURE

Author Contribution

All authors have contributed to this research process, including conception and design, analysis and interpretation of the data, drafting of the article, critical revision of the article for important intellectual content, final approval of the article, collection and assembly of data.

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Conflict of Interest

There is no conflict of interest for this manuscript.

Ethical Consideration

This research was approved by the Health Research *Ethics* Committee of the Surabaya Islamic Hospital Ahmad Yani. Letter of exemption Ref. No. 17.85/HPZH.22/LL/2020

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