ORIGINAL ARTICLE

Anxiety level and compliance with health protocols during the COVID-19 pandemic in Madura, Indonesia

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ARTICLE INFORMATION	**ABSTRACT**
	Introduction: The COVID-19 pandemic has caused changes in various aspects of life, including the culture of implementing health protocols to prevent transmission. The level of illness anxiety is considered to have a role in adherence to health protocols. Not many studies explain the relationship between anxiety levels and adherence to health protocols. ***Objectives:*** *This study aimed to determine the relationship between anxiety levels and adherence to health protocols in Madura, Indonesia.* ***Methods:*** *This study used a cross-sectional design. The number of samples is 400 people of Madura Regency. The samples were selected using a purposive sampling technique. The inclusion criteria were at least 17 years old and can read and write. The research instruments were the Zung Self Rating Anxiety Scale and Adherence to COVID-19 Prevention Measures questionnaires.* ***Results:*** *The level of anxiety was dominated by mild anxiety (49.3%), while adherence to health protocols was dominated by low compliance (44.8%). The results of the Spearman rho test showed that there was a relationship between the level of anxiety and adherence to health protocols with p-value = 0.000.* ***Conclusions:*** *This study showed a significant relationship between anxiety levels and adherence to health protocols.*

1. Introduction

COVID-19 is a virus variation that causes acute respiratory disorders such as fever, cough, and shortness of breath with an average incubation period of 5-6 days, and the longest is 14 days (Kementerian Kesehatan Republik Indonesia, 2020). Transmission of COVID-19 occurs in droplets or through splashes when someone coughs or speaks; this is what causes this virus to be easily transmitted to other people (Wu et al., 2020). Data for August 2021, the incidence of COVID-19 in Indonesia is 4,241,090 cases, and 143,270 have died. This number places Indonesia in the first rank of the highest in Southeast Asia (Kementerian Kesehatan Republik Indonesia, 2021). The prevalence in Bangkalan Regency of COVID-19 has reached 6,225 cases and 712 deaths. Bangkalan Subdistrict is the first sub-district with the most confirmed cases in Bangkalan Regency, namely 1,979 cases, followed by Kamal Subdistrict in second place with 683 confirmed cases, and Burneh Subdistrict is in third place with 567 cases (Dinas Kesehatan Kabupaten Bangkalan, 2021).

The COVID-19 pandemic has caused many changes in various of life, starting from the economic, social, and health aspects, both physically and mentally. During the COVID-19 pandemic, mental disorders include anxiety, fear, stress, depression, panic, sadness, frustration, anger, and denial (Huang et al., 2020). Anxiety is a concern resulting from a perceived threat to health (6–8). Anxiety is a predisposing factor or a factor within a person that influences human health behavior (Fitriani, 2017). Someone who experiences anxiety will experience worry, which disrupts their daily life and affects their adaptation to the surrounding environment. This anxiety can affect a person's behavior in prevention efforts. Public anxiety in this pandemic situation can

influence behavior in carrying out prevention efforts by complying with health protocols (Mavela, 2019).

The results of previous research conducted in the city of Semarang showed that state anxiety levels were at a moderate level (66.8%), mild level (27.3%), and severe level (5.9%). This level of mental health problems was caused by ambiguity and little information about COVID-19. Usually, in the early stages of a pandemic, people have little information about the nature, treatment, and mortality rate, which triggers fear about the pathogenic organism (Setyananda et al., 2021). Other research explains that adults and the working group experience anxiety or anxiety; anxiety occurs due to fear of losing a job because if you do not work, you cannot meet your needs (Ilahiyah, 2020).

WHO recommends steps to prevent transmission, including tightening health protocols such as using masks in public spaces, cleaning hands, maintaining distance, practicing coughing and sneezing ethics, avoiding crowded areas, ensuring good environmental ventilation in all closed rooms, and cleaning and adequately disinfect the environment (WHO, 2020). Efforts to tighten health protocols were also carried out in Indonesia to prevent the spread of similar cases (Jarnawi, 2020). Even though there have been many efforts to discipline health protocols, there were still many violations of health protocols during the COVID-19 pandemic. The survey results in 6 major cities in Indonesia with a total of 2000 respondents regarding health protocol behavior in the community showed that only 31.5% of respondents were disciplined (Pratiwi, 2020). Similar research was also conducted in Central Java and found that (65.8%) respondents always wore masks. However, 29.7%) of respondents admit that they rarely use masks when leaving the house, and 4.54%) of respondents admit they do not use masks when leaving the home (Untari & Kodiyah, 2020).

A lack of knowledge causes a lack of discipline in health protocols, and boredom during the pandemic is considered a factor. In addition, belief and cultural factors also considerably influence adherence to health protocols. Some people believe that COVID-19 does not need to be obeyed (Hasanah et al., 2021). Residents who live in urban areas usually prefer to accept that COVID-19 is dangerous and even causes anxiety. For example, for Madurese, the cause of anxiety is fear of illness, death of a family member, or death of oneself (Hasanah et al., 2021). Sickness or death due to testing positive for COVID-19 is also something to fear because of fears that other residents will shun it. The fear of being alone and ignored by those around you is terrifying (Abrori, 2021). In addition, other studies explain anxiety about several things, namely worrying about being exposed to COVID-19, worrying about losing your life, losing loved ones and losing your job, feeling anxious about the pandemic that will occur any longer, and worrying about not being able to afford education costs (Fakhriyani et al., 2021).

Complying with health protocols to avoid transmission of COVID-19 depends on public health behavior. Community behavior in preventive health programs that affect disease prevention behavior, especially COVID-19, is the responsibility of various parties (Dewi, 2020). Changes in one's behavior will be the key to optimism in dealing with COVID-19 by implementing health protocols according to recommendations from the government. Therefore, people must always live clean and healthy to avoid the coronavirus (Afsas et al., 2020). Based on the background above, this study aimed to determine the relationship between anxiety levels and adherence to health protocols in Madura, Indonesia.

2. Methods

The research design used was a cross-sectional study. The population in this study was the people of Bangkalan Madura, totaling 730,240 people. The sample that became the respondent was 400 people. Those were calculated using the Slovin formula. This study's sampling technique was purposive sampling, with the inclusion criteria being at least 17 years old and able to read and write. The independent variable was the level of anxiety. The dependent variable in this study was adherence to health protocols. Data collection was carried out in September 2021.

Researchers used the Zung Self-Rating Anxiety Scale to measure anxiety levels. The Zung Self-Rating Anxiety Scale is a questionnaire used to measure anxiety-related symptoms designed

by William W. K. Zung (1997). The Zung Self-Rating Anxiety Scale (ZSAS) consists of 20 Likert scale questions with a score of 1-4. Interpretation of the results in an ordinal scale of no anxiety, mild anxiety, moderate anxiety, and severe anxiety. This measuring instrument was valid and reliable, as indicated by Cronbach's alpha of 0.85, with a total reliability coefficient of 0.79 (Muliani et al., 2020).

Meanwhile, the measuring tool for compliance with health protocols used Adherence to COVID-19 Prevention Measures questionnaires. This questionnaire was adopted from the ICD Covid consortium. The questionnaire has ten questions about preventing COVID-19 with two answers, "yes" or "no ."The results are interpreted in the form of low, medium, and high compliance ordinal scales (Ditekemena et al., 2021). The results were then tested with the Spearman rho correlation statistical test using SPSS 21.

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3. Results and Discussion

Based on Table 1, the results show that the average age is 28, gender is dominated by women 54%, education is dominated by high school 57.3%, not working as much as 51.7%.

Table 1 Characteristics of the age of the people of Bangkalan

Variable		n	(%)
Age (mean, SD)		53	28,72 (8.402)
Gender	Male	184	46
	Female	216	54
Education	Junior Highschool	17	4,3
	Senior Highschool	229	57,3
	Bachelor/diploma	154	38,5
Job	Unemployment	207	51,7
	PNS	14	3,5
	Private sector	41	10,3
	Entrepreneur	122	30,5
	Farmer	16	4

Table 2 Levels of anxiety and compliance with the Bangkalan community

Variable		n	(%)
Level of anxiety	Not anxiety	168	42%
	Mild anxiety	197	49,3%
	Moderate anxiety	35	8,8%
Compliance with health protocols	Low compliance	179	44,8%
	Moderate compliance	160	40%
	High compliance	61	15,3%

Based on Table 2, it can be seen that the anxiety level of the Bangkalan people is dominated by the mild anxiety level of 49.3%, and adherence to health protocols in the Bangkalan community was relatively low; this is indicated by the results of low compliance of 44.8%.

Based on Table 3, the significance value is less than 0.05 (α = 5%), so it can be concluded that there is a significant relationship between anxiety levels and adherence to health protocols in the Madura community. The correlation coefficient results mean that the relationship's strength is extreme. The coefficient value is positive, meaning the relationship between variables is unidirectional.

Table 3 Relationship between anxiety level and adherence to health protocols

		Compliance with health protocols					
		Low compliance		Moderate compliance		High compliance	
		f	%	f	%	f	%
Level of anxiety	Not anxiety	151	89,9%	17	10,1%	0	0%
	Mild anxiety	28	14,2%	126	64%	43	21,8%
	Moderate anxiety	0	0%	17	48,6%	18	51,4%
value		0,000					
R		0,758					

According to Stuart's theory, there are predisposing factors and precipitation factors. Predisposing factors are causal or risk factors that affect the ability of resources to cope with stress. These risk factors include biology, psychology, and socioculture. Meanwhile, the precipitation factor triggers the emergence of a stressor, becoming a stimulus that threatens the individual, requiring much energy to deal with the stressor. These factors include nature, origin, timing, and number. These factors can cause a response, one of which is anxiety (Amir et al., 2022). In this study, the influencing factors were the precipitation factor in the number, the incidence of COVID-19 had decreased or slumped, and the timing of this research was conducted when the conditions for COVID-19 had slumped and had lasted for two years. The community had adapted to this pandemic condition. Madurese socio-culture can also affect anxiety; this happens partly due to the character of the Madurese people, who are known to be challenging (sturdy), so there is firmness in everything believed and thought. If, in the beginning, someone does not believe in the existence of COVID-19, or the middle, there is trust that fades from the community, it will be tough to change the principles of the Madurese so that the community is less concerned about this pandemic which has resulted in mild anxiety for the majority of COVID-19 (Amir et al., 2022).

Data was collected in March 2022, when the government made various efforts to control COVID-19. The steps taken by the government to control fewer victims due to COVID-19 include social restrictions, increasing testing, tracing, and treatment, and preparing hospitals and health workers (Rizkia et al., 2022). The government continues to fight hard to prevent more victims from happening by encouraging vaccination. Vaccination has been scientifically proven to reduce the risk of morbidity and death from being infected with COVID-19 (Rahmawati & Krityaningsih, 2022). Until now, the COVID-19 vaccine used in Indonesia still has good effectiveness for producing antibodies for any COVID-19 variant, including Omicron. Madura people have a tough character, where the implementation in everyday life is that if the perception has been formed from the start, it will be tough to reverse it. There are hoaxes, economic problems, uncertainty over the end of the pandemic, lack of knowledge, and other problems responded with the (solid) version of the Madura, which then considers COVID-19 not a threat. Besides that, there are also factors from the efforts made by the government to control COVID-19 so that the level of public anxiety in Madura is dominated by mild anxiety.

Based on the study's results, it was found that most Madura people adhered to health protocols at low compliance. It happens because there are factors of knowledge, attitude, and motivation. One of the factors that can affect a person's adherence to health protocols is a person's attitude in carrying out health protocols, where attitude is a form of a person's perception in acting to do something that is influenced by several things. Attitude is a person's opinion about a particular situation or situation and is influenced by several factors (Silalahi, 2021). The formation of attitudes is influenced by the belief that a person will have an obedient attitude towards the policy if there is belief in the presence of the COVID-19 virus and the health protocol policy effectively reduces the spread of COVID-19. In the Madura community, some people think that COVID-19 is not a threat and even think that COVID-19 does not exist.

The health protocol is one of the efforts that must be made by all levels of society in order to minimize the spread and transmission of COVID-19. Several factors can influence compliance with health protocols. In the Madura community, one of the factors that can influence the attitude

of the Madura's people is their lack of trust or response to COVID-19, which is not a threat. It makes the Madurese people have family relationships and strong emotional ties because they have lived in the same community for a long time. This sense of kinship causes people to ignore health protocols, which makes it challenging to keep their distance and not gather among their families and neighbors (Sholicha, 2021). In the Madura community, sociocultural influences adherence to health protocols. There is the influence of the kinship culture of the Madura people known as "tanean lanjhang," which is a unique Madura residential spatial construction and conditions with noble values. It also reflects the Madura community's powerful social interaction and kinship, which can strengthen relations. It makes it difficult for people to comply with health protocols (Efendi et al., 2021). Other research showed a significant correlation between pandemic prevention attitudes, subjective norms, and perceived behavioral control in adults. The subjective norms for pandemics will not have a significant direct effect on the intention to prevent a pandemic but also have a significant indirect effect on the prevention of pandemics by increasing their intention to prevent a pandemic (Seong & Bae, 2022).

Based on the results of the Spearman rho correlation analysis, the value of p = 0.000 (p <0.05) was obtained, so Ho was rejected, which means there is a relationship between the level of anxiety and adherence to health protocols in the Madura community. The coefficient value is positive (0.758), meaning that the strength of the relationship is extreme and the variable relationship is in the same direction. Many studies on other disease conditions show a relationship between anxiety levels and health behavior, where respondents with low anxiety are at risk for demonstrating poor health protocol behavior. During this pandemic, the public will experience panic and anxiety, affecting public behavior, especially health-related behavior. The factors affecting pandemic prevention behavior were the intention of the pandemic prevention behavior and the perceived behavioral control of the pandemic prevention behavior (Seong & Bae, 2022).

Someone with a stressor creates a response and will try to overcome the stressor. In this study, when someone is worried about COVID-19, they will avoid and try not to get infected with COVID-19 by tightening health protocols so that someone who is increasingly anxious will be more compliant with health protocols.

4. Conclusion

Based on this study's results, the anxiety level in the Bangkalan community is in the mild anxiety category. Compliance with health protocols in the community is included in the low compliance category. There is a relationship between the level of anxiety and adherence to health protocols in the community with a solid relationship and positive value, which means that the higher the level of anxiety, the higher the level of adherence to health protocols.

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