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Post-traumatic stress disorder in COVID-19 survivors who are self-quarantine in Indonesia

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Abstract---Symptoms of posttraumatic stress disorder (PTSD) in quarantined individuals are very important to understand to reduce the psychological impact caused by the COVID-19 pandemic. However, there is a lack of evidence to measure PTSD status globally during confinement in quarantine facilities after second wave COVID-19 in Indonesia. This study aims to assess PTSD status in people who are quarantined at home during the pandemic in patients with COVID-19. Survey used the Impact of Event Scale-Revised (IES-R), multicenter and cross-sectional survey assessed the psychological impact on individuals who experience quarantine of participants with suspected or confirmed COVID-19, their PTSD status, and various correlates with PTSD, data were collected by online media. This study has 120 respondents, 70% of the respondent are women, 79.2% self-quarantine within 11-14 days, and 74.2% of the respondent is Javanese. The study showed that 73.3% experienced severe PTSD symptoms, 6.6% moderate, 15.8% mild, and only 4.2% did not show PTSD symptoms. There is no relationship between the demographic factors of the respondents, namely the length of isolation, ethnicity, gender, and age, with PTSD symptoms suffered by the respondents. This research findings can enlighten policies in Indonesia to decrease the adverse effects of self-quarantine.

Keywords---COVID-19, self-quarantine, post-traumatic stress disorder.

Introduction

COVID-19 (The Coronavirus Disease-2019) pandemic has pointedly affected people in the world. People is faced with a phase of discomfort: worries about health and work, increasing mortality problems, separation, and chaos in life. Physical distancing and quarantine is one of the non-pharmacological interventions to decrease the spread of this disease for confirmed and suspected COVID-19 patients.

On the one hand, these measures can control the COVID-19 outbreak and condense disease transmission, but on the other hand, they have psychological effects; as proven in China, these measures cause damage or negative effects on the mental health of people all over the world (Lau et al., 2020) .Quarantine and isolation have been publicized to be the main factors associated to significant psychological impact (Brooks et al., 2020) .

A study (Tang et al., 2022) identified that university students in China who had been quarantined for a month after the outbreak caused incidents of anxiety and hopelessness. In the same study, most participants who chose to be quarantined at home were more likely to develop the posttraumatic disorder (PTSD) and depressive symptoms, meaning a higher quantity of PTSD and depression scores, specifically in those with severe fear of living in a zone that worst, also in their final year at university.

The presence of symptoms of posttraumatic stress disorder (PTSD) was also noted in healthcare workers (HCW), quarantined individuals, and survivors of previous pandemics, including Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (Hawryluck et al., 2004). PTSD is also associated with over-activation of the immune system and can make an inflammatory response, As with COVID-19 (Gill et al., 2009).

PTSD has an enormous impact on individuals and society. There is emerging evidence showing that, among anxiety disorders, PTSD is one of the most strongly associated with suicidal behavior (Nepon et al., 2010). Information about the understandings of quarantined people is significant to reduce the adverse effects of these control measures on these people and the community as a whole. These findings may also provide additional provisions to individuals at improved risk of quarantine's adverse psychological impacts, such as PTSD (Hawryluck et al., 2004) .Understanding the symptoms of PTSD in quarantined individuals is needed to minimize the psychological effect.

In this research, we aimed to identify the PTSD status of individuals who were self-quarantined after the second peak phase in Indonesia during the COVID-19 pandemic and examined the various correlations involved in developing PTSD using the Impact of Event Scale-Revised (IES-R) scale. This scale is one of the most commonly used scales to assess PTSD symptoms in individuals experiencing stress (Weiss et al., 1997) . This scale has good psychometric assets and has been used capably in various languages worldwide (Warsini et al., 2015).

Method

This study used a cross-sectional design with a quantitative approach. The study was conducted in the territory of Indonesia during August 2021-November 2021. The data collection method used a questionnaire for COVID-19 self-isolation clients who met the inclusion criteria, namely males or females aged 13 - 60 years; respondents have been in self-isolation in their own house within the past 1-3 months (when the questionnaire was filled out). Data collection is done online using a social media platform, namely WhatsApp.

The data presented is descriptive data. *Impact Of Events Scale-Revised (Ies-R)* by Weiss (2007) is a questionnaire used to assess PTSD (self-evaluation to capture the level of symptom response to specific traumatic stressors). This scale also measures the effects of daily life stress, everyday trauma, and acute stress. The severity for each item was graded from the absence of symptoms (score 0) to maximal symptoms (score 4). Final consistency, with Cronbach's alpha ranging from 0.79 to 0.91, and alpha retest reliability ranging from .51 to .94. The stressful life events in this study were COVID-19 self-isolation respondents.

Discussion

Results in this study are shown at this table

Table 1
Demographic of respondents associated with the incidence of PTSD

Variable	Category	f	%	p
Gender	Man	36	30	0.076
	Woman	84	70	
Ethnic	Java	89	74.2	0.523
	Madura	5	4.2	
	Sunda	1	0.8	
	Betawi	6	5.0	
	Batak	5	4.2	
	Banjar	4	3.3	
	Ambon	1	0.8	
	Flores	4	3.3	
	Padang	5	4.2	
Age	16 – 25 years	38	31.6	0.271
	26 – 35 years	49	40.8	
	old	13	10.8	
	35-40 years old	20	16.6	
	40 years and over			
Length of quarantine	5-7 days	9	7.5	0.094
	8-10 days	16	13.3	
	11-14 days	95	79.2	

Table 2
Frequency and percentage of PTSD categories

Variable	Category	f	%
PTSD	not ptsd	5	4.2
	mild	19	15.8
	moderate	8	6.7
	severe	88	73.3

Based on the table above, this research concludes that 95.8% of respondents experienced PTSD symptoms, of which 76.5% showed severe symptoms. This research found no relationship between PTSD symptoms and the length of self-quarantine, age, ethnicity and gender.

The study produced data that respondents were dominated by PTSD symptoms on a weight scale. This is in line with TMH Global's research related to quarantined covid patients, 70% of respondents showed PTSD symptoms (TMGH-Global COVID-19 Collaborative, 2021). The study conducted by Mak et al. reported that 25% of respondents suffered from PTSD from SARS patients who were obtained 30 months after illness, PTSD was the most common psychiatric disorder among these patients (Mak et al., 2009).

Similarly, in a study on MERS survivors, Lee et al. found 12 months after infection there were symptoms of chronic fatigue, which led to prolonged PTSD symptoms at 18 months (Lee et al., 2018). Recently in COVID-19 patients, among 402 survivors who were screened one month after discharge, 28% reported PTSD and 56% presented with at least one clinical dimension of PTSD, anxiety, depression, obsessive-compulsive symptoms, and insomnia (Mazza et al. , 2020)

During the SARS outbreak, another study reported that people who were at risk were two to three times more likely to develop PTSD than those who were not exposed, namely hospital employees who had been quarantined, who had worked in high-risk wards, and who had close friends or relatives who had contracting the infection (Wu et al. al., 2009) .

Being at home for a long period of time such as the COVID-19 quarantine period, limiting our interactions with other people, especially those close to us makes people suffer from anxiety. Ultimately, this anxiety makes people feel isolated—unable to connect with others. Although some people may live in the same house as their family members, spending too much time with only the same person is also associated with anxiety as it can lead to conflict.

Corona virus is well known in society for its ability to kill millions of people in a short time. Therefore, not a few people are afraid of its existence and build fear of being infected or unknowingly transmitting the virus. In the end, society felt insecure and isolated. The changes caused by Covid19 also trigger other disorders, particularly in PTSD. Quarantine conditions are also associated with feelings of loneliness from being separated from others, feelings of guilt, fear, and helplessness (Brooks et al., 2020) .

Some of the results of other studies (Sprang & Silman, 2013) show that quarantine during outbreaks of unexpected events, especially outbreaks of infectious diseases carries some signs of mental health problems, in the same way that anxiety and fear arise, lack of sleep, or even insomnia. Female respondents had higher rates of these symptoms. A study conducted on families in America when exposed to H1 N1 and SARS-CoV showed the presence of PTSD due to quarantine in children (30%) (Tu et al., 2020) .

These results support a previous study conducted on 2,091 and 285 adults in China after several weeks of Covid-19 infection in Wuhan, stating the prevalence of PTSD was 4.6% and 7%, respectively, often associated with poor sleep quality and in female respondents (Huang & Zhao, 2020) .

Another factor that seems to influence the IES-R score is the place of quarantine. In this study, the description of PTSD symptoms dominated by severe symptoms can be related to the self-isolation factor where we target individuals who are quarantined at home. Although there are no data examining the association between quarantine and PTSD specifically, in a study of 1800 health care workers and 73 hemodialysis patients during a MERS outbreak, hemodialysis patients had lower levels of anxiety and depression in hospital compared to quarantine workers at home (Lee et al., 2018) . Quarantining at home was associated with slightly higher IES-R scores than being quarantined at a government-designated center, although not significantly.

This study did not identify differences in IES-R scores between individuals who self-isolated voluntarily and involuntary. The global TMGH study identified that Individuals who were forced to quarantine/isolate had a higher likelihood of developing PTSD symptoms than those who were voluntarily quarantined/isolated (OR: 2.92 (1.84–4.74); $p < 0.001$) (Collaborative, 2021).

In our study there was no significant relationship between PTSD symptoms and the demographic factors presented in the table above. This is consistent with Tang's study that there is no association between symptoms of anxiety, depression, and PTSD with time spent in quarantine, length of education, and age (Tang et al., 2022) .None of the demographic factors we measured had a significant association with PTSD in our sample.

This result is not in accordance with previous research. For example, research conducted in many countries, including China, Turkey, Italy, and Spain, showed that quarantine increased symptoms of stress, anxiety, and depression more in women than men (Özdin & Bayrak zdin, 2020) . One study showed that gender differences peaked in adolescence but then decreased and remained stable in adulthood (Salk et al., 2017) . Participants in this study were randomized across all ages, which may be another reason why the difference was not significant. In addition, we speculate that this could be related to the limited nature of the online questionnaire.

Conclusion

In conclusion, our findings found that most respondents had severe PTSD symptoms during the COVID-19 outbreak. This study shows that the pandemic affects mental health, especially among those undergoing self-isolation. Therefore, it is essential to consider the characteristics of this group in developing an intervention. Also, further research is needed to explore what kind of interventions are needed to reduce the effects of PTSD in society.

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