Analysis of Factors in Emotional Disorders of Patients with Confirmed Positive Covid-19 while Undergoing Isolation in a Quarantine Home

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Abstract
The Covid-19 pandemic is the world’s recent focus. Covid-19 still spreads rapidly and widely, including in Indonesia. The virus impacts human social life, psychology, and behavior. These impacts also attack people who are isolated/quarantined because of Covid-19 to avoid potential spread. This study employed a correlational descriptive and was conducted at the quarantine house in Mojokerto Regency.

The research sample was 543 respondents selected by a purposive sampling technique. The research instrument was Self-Reporting Questionnaire-29, a questionnaire issued by the Directorate of Mental Health Services of the Indonesian Ministry of Health. The research instrument’s domains were anxiety and depression, psychomatics, symptoms of psychotic disorders, and trauma stress. The research’s parametric statistical tests were the Pearson test and linear regression (α=.05).

The research reveals three significant factors in emotional disorders of patients with confirmed positive Covid-19 while undergoing isolation in a quarantine house. They were education, social support, and socioeconomic status.

The findings of this research recommend that nurses and psychologists take initiatives to provide psychological assistance and target individual interventions for confirmed patients experiencing depression and anxiety.


Keywords: Emotional aspects, patient isolation, SARS-CoV-2.

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IntroducEtion
Globally, there have been 98,794,942 confirmed cases of Covid-19 and 2,124,193 deaths¹. The number of patients with confirmed positive recorded from the first case to today has reached 1,024,298 patients. The number of recovered patients has reached 831,330 people (81.2%). The number of active cases or patients who still need treatment, as of today is 162,617 cases (15.9%). Mortality increases by 28,855 cases (2.8%)². The Covid-19 data in Mojokerto Regency show 13,094 new cases³. Global health governance increasingly focuses on epidemic and pandemic health emergencies requiring interdisciplinary approaches to access scientific knowledge and guide crisis preparedness and responses⁴. The one-health approach seeks to strategize coordinated efforts across multiple overlapping disciplines, including environmental monitoring and environmental health⁵. This condition urges for social isolation and lockdowns.

Furthermore, the situation has changed people’s daily lives in Indonesia drastically. The population experiences new, unexpected, and rapidly changing situations, such as obligation to stay at home, greatly dynamic changes, travel restriction, prohibition on recreational activities, and social life restriction. Moreover, the work situation has changed drastically: many people have lost temporary or permanent jobs, many people are forced to work from home without good preparation, and workers of vital sectors have heavier workloads, stress levels increase, and virus exposure increases⁶. The Indonesian health system is overwhelmed, and hospitals
experience shortages of ward occupancy (particularly emergency room and Intensive Care Unit decreases), medical equipment (mostly ventilators), and personal protective equipment. Humans are likely to encounter such situations with a high level of fear and concerns about the pandemic and its consequences. Studies investigating the psychological impact of previous infectious outbreaks, such as the Severe Acute Respiratory Syndrome (SARS) similar to the Covid-19 pandemic, found healthcare workers’ and the general public’s heavy psychological burdens, such as anxiety, depression, panic attacks, and psychotic symptoms. Healthcare workers who were quarantined, worked in SARS units, or had family or friends infected with SARS, had more anxiety, depression, frustration, fear, and post-traumatic stress than those did not experience. The psychological wellbeing is influenced by two factors: internal factors (age, gender, and education) and external or social factors (economic burdens, family support, and social support). Several studies investigated the influences of social factors on mental health. Social support is a common variable, but only few studies have investigated the relationship between socioeconomic status and health. Findings from previous studies suggest that isolated individuals have high levels of anxiety and stress. A person’s mental attitude when firstly infected with Covid-19 involves fear, anxiety, and panic about the Covid-19. The feeling of fear occurs because the virus has killed many people. In addition, scientists have not found medicines for Covid-19, and the community has bad stigma towards people suffering from Covid-19. Fear is a fundamental-adaptive defense mechanism to survive, and it involves several processes of biological preparation for responding to a potentially threatening event. However, when it is chronic or disproportionate, it becomes dangerous and can be a key component in the development of various psychiatric disorders. Fear increases anxiety and stress levels of healthy people and intensifies symptoms of people with psychiatric disorders. During epidemics, people suffering from mental health are more than people suffering from infection. This research aims to analyze factors in emotional disorders of patients with confirmed positive Covid-19 while undergoing isolation in a quarantine home.

**Materials and methods**

This study employed a correlational descriptive method. This research was conducted in Mojokerto Regency. The research employed a purposive sampling technique and involved 543 respondents who met the research criteria and objectives. The research samples included 543 respondents: 1) patients diagnosed with Covid-19 by the PCR test, 2) adults (18-59 years), and 3) asymptomatic Covid-19 patients. Meanwhile, the exclusion criteria were 1) patients with comorbidities and 2) patients with severe Covid-19 symptoms. The instrument of this research was the Self-Reporting Questionnaire-29, a questionnaire issued by the Directorate of Mental Health Services of the Indonesian Ministry of Health. The instrument has several domains: anxiety and depression, psychomotrics, symptoms of psychotic disorders, trauma, and stress. The data were collected through the following steps: 1) selecting research subjects adjusted to the inclusion criteria, 2) providing clear research information for the research subjects, 3) requesting the respondent's approval as a research subject by providing an informed consent sheet, and 4) distributing questionnaire to all respondents. Meanwhile, the parametric statistical tests of this research were the Pearson test and linear regression. The study had conducted an ethical test. It passed the ethical test and obtained a research permit from the College of Health Science Maluku Husada, Indonesia with no. RK.08/KEPK/STIK/II/2020.

**Results**

The respondents’ characteristics include gender, education, number of family members, social support, ages, and socioeconomic status. Table 1 shows that the majority of the respondents' characteristics are male, junior high school graduates, patient with five family members, and patient receiving social support from family and friends. The mean age is 30.31 years, and the mean socioeconomic status is 35.76, categorized as middle-low (Table 1).
Table 1. The Characteristics of Respondents (n=543).

<table>
<thead>
<tr>
<th>Characteristics of respondents</th>
<th>f</th>
<th>%</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td>.063</td>
</tr>
<tr>
<td>Man</td>
<td>410</td>
<td>75.5</td>
<td></td>
</tr>
<tr>
<td>Woman</td>
<td>133</td>
<td>24.5</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>.008*</td>
</tr>
<tr>
<td>Primary School</td>
<td>18</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Junior High School</td>
<td>36</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td>Senior High School</td>
<td>215</td>
<td>39.8</td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>153</td>
<td>28.2</td>
<td></td>
</tr>
<tr>
<td>Postgraduate</td>
<td>49</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Professional qualified doctors</td>
<td>72</td>
<td>13.3</td>
<td>.205</td>
</tr>
</tbody>
</table>

Number of family members

<table>
<thead>
<tr>
<th>Social support</th>
<th>Yes</th>
<th>317</th>
<th>58.4</th>
<th>.05*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>226</td>
<td>41.6</td>
<td></td>
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<table>
<thead>
<tr>
<th>Age</th>
<th>Mean ± SD</th>
<th>30.31 ± 10.920</th>
<th>.001*</th>
</tr>
</thead>
</table>

Table 2 shows that if questions 1-20 have more than five yes answers, the respondents have psychological problems, such as anxiety and depression. Meanwhile, question 21 shows that there was no respondent using psychoactive substances/drugs. If respondents do not answer one or more yes for the questions 22-24, they experience symptoms of a psychotic disorder. If questions 25-29 do not have one or more yes answers, the respondent experiences symptoms of post-traumatic stress disorder/stress disorder after trauma.

Table 3 reveals the final analysis results of multivariate multiple linear regression. The formula of predicting the value of emotional disorders is:

\[ \text{Emotional disorders} = 9.044 + 0.084 \times \text{social support} - 0.102 \times \text{socioeconomic status} \]

The multivariate analysis result concludes that the most influential variables in emotional disorders are social support with a value of β = 0.084 and socioeconomic status with a value of β = -0.102.

Discussion

During the worldwide outbreak of Coronavirus disease 2019 (Covid-19), a confirmed patient’s mental health condition is very important to ensure his health and mental health is essential for all humans and a productive and efficient life. Since the effects of mental health are adverse, it is crucial to investigate potential factors and mechanisms to improve mental health and maintain productivity of health workers in the midst of an epidemic. Among all contributing factors, social support is recognized as a protective factor for mental health. The results show that the significant factors in emotional disorders of patients with confirmed positive Covid-19 while undergoing isolation in a quarantine house are education, social support, and socioeconomic status with the α = .05. The results of the multivariate linear regression test reveal that the most influential factors in emotional disorders of patients with confirmed positive Covid-19 are social support and socioeconomic status with a α = .04.
The demographic data of this study are different from those of previous findings. Several variables are significantly associated with mental disorders, namely age, sex, occupation, housing dimensions, and disease status. The results of previous studies conducted when the Covid-19 outbreak firstly occurred show that the prevalence of depression and anxiety symptoms in Chinese adolescents who participated in the studies was relatively high; social support was a protective factor for adolescent mental health. Another finding shows that most of Covid-19 patients in the ICU suffered from psychosocial problems. One of the factors influencing physical and psychological wellbeing is social support. Social support can come from various sources, such as family, friends, partners, community ties, and colleagues. Social networks influence health behavior through several mechanisms. Meanwhile, social contacts provide information about applicable resources and products to change behavior. Furthermore, social networks provide social capital or information to take action. The literature is now available to explain the roles of perceived social support that influence positive-psychological outcomes, such as self-efficacy, self-esteem, and resilience. However, this can contribute to improve health behavior.

Emotional disturbance is a human mental health disorder. Besides social support factors, the socioeconomic status affects the emotional disorders of Covid-19 patients. Previous research investigating healthcare workers posits that an epidemic affects three aspects: economic problems, interpersonal communication problems, and mental health. Another study found that two-thirds of the respondents had decreasing income. The latest finding shows that socioeconomic status significantly affects the prevalence of depressive symptoms. Studies show that the impact of a pandemic on the psychological distress of the population can influence the progress of the pandemic; thus, the psychological distress indirectly affects mortality. Furthermore, the development of mental disorders in the community can create burdens that hinder national social and economic recovery when the pandemic ends. This research’s data of the psychological distress levels are not dramatically higher than the reported data in previous studies; this finding indicates that, in the early stages of the pandemic, the population had resisted the unprecedented changes they compulsorily encountered.

However, researchers identified certain groups who were probably more vulnerable to the social and economic challenges of the pandemic, particularly people with affected income, children living at home, and vulnerable health conditions to Covid-19 effects. This study has strengths and limitations. The advantage of this research shows that the sample highly represented the Indonesian population. They were recruited in the early outbreak by employing standard measurement to possibly compare this research’s findings with the following studies' findings. Furthermore, this study has several limitations. First, although the sampling frame and sample size were large, they were not a true random probability sample because it is quite difficult to obtain perfect data in this situation. Second, psychological factors possibly influenced individual's decisions to participate in the research, and, thus, the sample was possibly biased. Third, all mental health assessments were based on self-reports not interviews by doctors. This could result in overestimating prevalence rates. Our findings provide evidence that supports the adoption of strategies to increase social support during the Covid-19 epidemic. For example, nurses and psychologists should take initiatives to provide psychological assistance and targeted individual interventions for patients with confirmed depression and anxiety. Moreover, the efforts should encourage the availability of other types of social support to improve Covid-19 patients’ mental health.

Conclusions

The significant factors in the emotional disturbance of patients with confirmed positive Covid-19 while undergoing isolation in a quarantine home are education, social support, and socioeconomic status. Meanwhile, the most influential factors are social support and socioeconomic status. Further research should be conducted to prove that this group will exhibit higher levels of psychological distress at a future stage of the pandemic, and that special interventions and policies must be developed to meet the Covid-19 patients' needs.
Acknowledges

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Declaration of Interest

The authors report no conflict of interest.

References