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Coping strategies of COVID-19's infected patients: Insight from Indonesian cases

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Abstract

The COVID-19 pandemic has ravaged many aspects of daily life and induced prolonged mental health problems in individuals. The mental and physical distress felt by affected individuals emphasizes the need for effective coping strategies to cope with this mental burden. Therefore, the present study aims to (1) explore the coping strategies infected individuals used during the infection period; (2) examine whether there are different coping strategies associated with gender, physical fragility (e.g., pregnant women and the elderly), and specific isolation characteristics. An online survey was administered in February 2021 to a convenience sample recruited through social media platforms. It consisted of self-reported infected individuals practicing self-isolation or being isolated in hospitals. 304 respondents aged 15 – 68 (mean=31.90, SD=10.04) participated in this study. The Brief COPE Inventory was distributed with general demographic questions. In general, the results showed that all participants used adaptive strategies more commonly than maladaptive ones. Among the adaptive coping strategies, acceptance and religion are the most commonly used coping strategies. However, the participants who had physical fragility and were in isolation used all adaptive coping strategies equally. Of all maladaptive strategies, self-distraction was consistently the most commonly used by all participants. Meanwhile, the participants who had physical fragility and were in isolation also employed venting and self-blaming in addition to self-distraction. These results emphasize that people infected by COVID-19 can cope positively in situations, but additional support for people who have physical fragility and are in isolation (at home or in a hospital) is still needed.

Keywords: Coping Strategies; COVID-19; patient; Indonesia

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Introduction

At the end of 2019, the outbreak of COVID-19 has devastating consequences on a global scale. The virus continued to spread uncontrollably until the World Health Organization declared a pandemic on March 11, 2020 (WHO, 2020). This unprecedented outbreak has devastated many aspects of our lives, and it is still one of the most concerning health issues worldwide. The COVID-19 virus is highly contagious and deadly (Webster, 2020). Although the virus threat of the pandemic is physical, the impact of the disease also causes detrimental effects on mental and emotional well-being (Chew et al., 2020). The psychological impact is triggered by sudden changes in various essential aspects (e.g., mobility, economy, health care) experienced by people worldwide (Shrestha et al., 2020).

The impact of the COVID-19 pandemic on mental health problems in various groups has been well-documented. All people, both non-infected and infected, have experienced the effect. Those infected have faced more severe psychological conditions than those who are not (e.g., Chen et al., 2020). To overcome stress, individuals need coping strategies. Coping strategies reflect how individuals handle and mitigate stressful events (Noorbakhsh et al., 2010). Various coping strategies can be utilized to face certain conditions, and the choice of strategy can be unique to individuals when exposed to stressors (Carver, 1997). Based on the Lazarus model of stress and a model of behavioral self-regulation (Carver & Scheier, 1983, 1985; Scheier & Carver, 1988), Carver summarizes 14 coping strategies (Carver et al., 1989). Those strategies could be viewed as coping dispositions (what the person usually does when under stress) and situation-specific coping tendencies. The coping strategies are divided into adaptive strategies related to a better psychological condition and maladaptive strategies related to a worse psychological condition in a variety of conditions (Ben-Zur, 2009; Carver et al., 1993; Mahmoud et al., 2012). Adaptive coping consists of seven strategies: active coping, emotional support, instrumental support, positive reframing, planning, acceptance, and religious strategy. On the other hand, maladaptive coping consists of seven strategies: self-distraction, denial, substance use, behavior disengagement, venting, self-blame, and humor (see Appendix A for full explanation, available at https://osf.io/xuyr4).

Several studies were carried out to examine individual coping strategies in responding to the COVID-19 pandemic. Skapinakis et al. (2020) studied the adult population in Greece. They found that most participants applied active coping strategies to cope with the pandemic. Furthermore, some positive coping strategies are used simultaneously, which correlates with better mental health and fewer depressive and anxiety symptoms. Similarly, a study on the general Australian population showed that positive reframing, acceptance, and humor correlated with fewer symptoms of depression, anxiety, and stress. On the contrary, maladaptive coping strategies such as self-blame, venting, behavioral disengagement, and self-distraction are associated with more symptoms of depression, anxiety, and stress (Gurvich et al., 2021). Mishra et al.'s (2021) study on Indian undergraduate students found lower depression symptoms correlated with religious coping strategies in female students. Religion strategy is the tendency to turn to religion to find comfort, prayer, or spiritual beliefs in times of stress. In contrast, depression, anxiety, and stress symptoms are more common in students who apply maladaptive coping strategies like self-distraction, behavioral disengagement, and denial. Self-blame was only associated with depressive symptoms, while substance use was associated with higher anxiety levels in female students. Fteropoulli et al. (2021) examined the psychosocial impact of the pandemic and identified risk factors for poor psychosocial outcomes in healthcare professionals in Cyprus. The result showed that using avoidance coping was one of the significant risk factors for anxiety, depression, and occupational burnout.

The studies mentioned earlier have shown that coping strategies play protective or risk factors for mental health in individuals during the pandemic. However, little attention has been given to studying coping strategies involving individuals infected by COVID-19, who are more prone to mental health problems (Aliakbari Dehkordi et al., 2020; Ma et al., 2020; Qi et al., 2020). In response to this gap, recent studies have begun to examine how individuals diagnosed with COVID-19 navigate mental health challenges through various coping strategies. For example, Shetty et al. (2021) conducted a study on home-isolated COVID-19 patients with mild infections in India. The patients included in the study were diagnosed by physicians as asymptomatic or exhibiting mild symptoms and were advised to undergo one to two weeks of home isolation. The findings revealed that these patients employed both positive and negative coping strategies. In another study, Kandeğer et al. (2021) compared coping strategies between COVID-19 patients and healthy controls. The results indicated that adaptive coping strategy scores were significantly higher among the patient group.

Similarly, Dehelean et al. (2021) examined coping strategies among individuals with acute versus remitted COVID-19. Their findings revealed that acute patients employed significantly more engagement- and emotion-focused coping strategies, while remitted patients, particularly those experiencing high stress levels, were more likely to rely on disengagement and emotion-focused coping strategies.

Collectively, these studies highlight the diverse coping strategies employed by individuals infected with COVID-19 and reveal meaningful differences based on infection severity and health status. However, further research is needed to deepen our understanding of how factors such as gender, physical frailty, and isolation characteristics influence coping mechanisms among infected individuals. Therefore, the present study aims to investigate coping strategies among individuals infected with COVID-19 and explore differences in coping strategies based on gender, physical frailty, and isolation characteristics. As this study is exploratory in nature, we did not formulate any specific hypotheses.

Materials and Methods

Participants

Participants' inclusion criteria were those diagnosed with COVID-19 by a healthcare professional (nurse, doctor)

and treated in a hospital or at home. They self-reported the diagnosis in our survey when they experienced the illness. We use a cross-sectional study design with a convenience sampling technique. This technique consisted of the following steps: (1) The researchers (FAA and R) recruited the participants by publishing the study information and an open invitation to participate in our study on their social media accounts. The inclusion criteria of participants are explained in the e-poster published on social media accounts (2) Along with the study information, we provided the electronic link to the survey and the consent form. The Indonesian government had reported 6462 – 10.614 positively new confirmed cases per day in that time frame (https://covid19.go.id/). The sample comprised 304 respondents aged 15 – 68, the average age of 31.90 (SD = 10.04). Of the total participants, in terms of gender, 72% were female. In terms of origin and ethnicity, the participants are from Java Island (79.6%) and Javanese (57.2%). As for educational background and religion, the participants mostly are university graduates (90.1%), and Muslim (89.5%).

Procedures

Ethical approval for this study was granted by Universitas Padjadjaran Ethical Committee Number 145/UN6.KEP/EC/2021. Data collection was conducted online using Google Forms from February 12 to February 24, 2021. The participants who matched the criteria could directly access and complete the survey form without supervision. The informed consent form was included in the survey and asked before starting. For one participant aged 15 and one participant aged 17, additional parental consent was obtained. The time needed to complete the survey was approximately 10 minutes. All data collected were automatically recorded and transferred anonymously to the researcher's email address. Participation in this study is generally anonymous unless the participants were willing to join the lucky draw that requires personal contact, and thus they shared their phone numbers. Those were decoupled before the first analysis. Twenty-five participants were randomly selected to get 5 USD worth of e-money sent to their accounts.

Instruments

A questionnaire containing three sections was distributed to the participants. To collect participants' demographic data, they were asked to provide personal information, including age, gender, education, and location of residence.

The second questionnaire asked about COVID-19-related information, such as period and place of isolation. We categorized the period of isolation into two categories: within 14 days and more than 14 days (WHO, 2020). Isolation for more than 14 days might indicate higher severity of the symptoms in common cases. The place of isolation is divided into three categories: at home, at the hospital, and both home and hospital. The higher the severity of the symptom, the more needed isolation at the hospital. The individuals isolated both at home and in hospital usually need more time to recover than those isolated only at home and hospital. Furthermore, we asked them to check some options related to COVID-19 physical fragility criteria relevant to their condition. The criteria provided are based on the Indonesia Ministry of Health, including pregnant women, the elderly (more than 70 years old), having a chronic illness, and having physical disability (Indonesia Ministry of Health, 2020). We also provided one open question asking them to describe the physical symptoms they experienced during the COVID-19 infection.

The Brief COPE is used for data collection to assess the coping strategies among respondents (Carver, 1997). It is a 28-item self-report inventory that includes statements indicating particular coping strategies that individuals may carry out. From 28 items of Brief COPE, there are 14 adaptive and 14 maladaptive coping strategy items. The adaptive coping items measure seven types of coping (2 items each): active coping, emotional support, instrumental support, positive reframing, planning, acceptance, and religious strategy. The same pattern is performed with maladaptive coping items (self-distraction, denial, substance use, behavior disengagement, venting, self-blame, and humor). The participants were asked, "How you've tried to deal with the stress associated with your infected condition". They responded to the 4-point Likert Scale, from "I have not been doing this at all" to "I have been doing this a lot." The standardized backward-forward translations were conducted from English to Bahasa Indonesia. The internal consistency in the present study is .841 for adaptive coping and .722 for maladaptive coping.

Data Analysis

All participants completed the survey; thus, we included all datasets in the analysis. We used percentages to describe the respondents' gender, physical fragility, and isolation characteristics data. For Brief COPE, means and standard deviations (SD) were calculated. The Shapiro-Wilk test was used to determine the distribution of the Brief COPE scores, which showed that the scores were not normally distributed. Therefore, we applied the non-parametric tests for all analyses. We use the Wilcoxon sign rank test to examine the categorization of coping strategies used by the infected COVID-19 individuals. We employed Friedman's two-way analysis to compare coping strategies in each categorization. The post hoc analysis with Bonferroni correction would be applied when we encountered significant differences. The p-value < 0.05 was considered statistically significant. All statistical analyses were carried out using the IBM SPSS Statistics version 22.0.

Results

Of the 304 respondents, most were female and did not have physical fragility. A low percentage of participants have physical fragility, which is pregnancy (3%), and having chronic illnesses (8.5%). More than half of the participants were isolated at home. See Table 1 for the details.

Tab. 1. Gender and COVID-related characteristics (N=304).

Characteristics	N	%
Gender		
Male	85	28
Female	219	72
Physical fragility		
Yes	35	11.5
No	269	88.5
Period of isolation		
Within 14 days	160	52.6
More than 14 days	144	47.4
Place of isolation		
Only at home	204	67.1
Only at hospital	67	22
Home and hospital	33	10.9

Regarding the physical symptoms they experienced during the Covid-19 infection, the results show the symptoms are considered mild or moderate based to the Indonesian Ministry of Health. Data on coping strategies based on gender, physical fragility, and isolation characteristics are listed in Table 2, divided into two coping categories: adaptive coping and maladaptive coping.

A Wilcoxon test showed a significant difference between the two coping categories in all participants. The participants' adaptive coping strategies scores were significantly higher than maladaptive coping strategies. It also applied similarly to all of the sub-groups. In other words, all participants, regardless of their gender, physical fragility, and isolation characteristics, use adaptive strategies more commonly than maladaptive ones.

Descriptive statistics describe the use of coping strategies in each category. Table 3 shows the descriptive statistics of seven coping strategies under adaptive coping strategies, while Table

Tab. 2. Descriptive statistics and Wilcoxon test

Chacarteristics	Adaptive Coping		Maladaptive Coping		z	p
	M	SD	M	SD		
All Respondent	3.55	.38	1.99	.41	15.03	<.001
Gender						
Male	3.47	.46	1.93	.45	7.89	<.000
Female	3.58	.34	2.02	.39	12.80	.000
Physical fragility						
Yes	3.60	.37	2.06	.44	5.09	.000
No	3.55	.38	1.99	.41	14.16	.000
Period of isolation						
Within 14 days	3.53	.43	1.97	.40	10.87	.000
More than 14 days	3.57	.31	2.02	.41	10.41	.000
Place of isolation						
Only at home	3.58	.33	1.99	.37	12.35	.000
Only at hospital	3.55	.38	2.02	.44	7.07	.000
Home and hospital	3.39	.39	2.01	.55	4.87	.000

Tab. 3. Mean and standard deviation of the seven adaptive coping strategies. ccording to Brief COPE.

Characteristics	Acceptance		Religion		Positive Reframing		Informational Support		Emotional Support		Active Coping		Planning	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
All Respondent	3.70	.47	3.70	.57	3.58	.57	3.56	.56	3.53	.61	3.43	.59	3.36	.61
Gender														
Male	3.62	.57	3.57	.62	3.47	.68	3.53	.59	3.47	.60	3.37	.61	3.26	.63
Female	3.74	.42	3.75	.54	3.62	.52	3.57	.55	3.55	.61	3.46	.58	3.40	.60
Physical fragility														
Yes	3.74	.39	3.70	.60	3.70	.53	3.63	.49	3.59	.55	3.41	.58	3.41	.54
No	3.70	.48	3.70	.57	3.57	.57	3.55	.57	3.52	.62	3.43	.59	3.35	.62
Period of isolation														
Within 14 days	3.71	.45	3.70	.57	3.58	.61	3.54	.57	3.53	.65	3.37	.63	3.30	.65
More than 14 days	3.69	.49	3.70	.57	3.58	.52	3.58	.55	3.52	.57	3.50	.54	3.42	.57
Place of isolation														
Only at home	3.72	.46	3.75	.47	3.57	.56	3.59	.52	3.57	.59	3.46	.56	3.37	.59
Only at hospital	3.72	.39	3.67	.62	3.69	.48	3.50	.57	3.48	.59	3.40	.63	3.41	.60
Home and hospital	3.58	.65	3.44	.90	3.41	.75	3.44	.72	3.39	.77	3.30	.66	3.18	.73

Tab. 4. Mean and standard deviation of the seven maladaptive coping strategies. According to Brief COPE.

Characteristics	Self-Distraction		Venting		Self-Blame		Humor		Denial		Behavioral Disengagement		Substance Use	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
All Respondent	3.31	.69	2.52	.87	2.09	.90	2.00	.81	1.49	.74	1.33	.61	1.23	.60
Gender														
Male	3.17	.73	2.08	.84	2.05	.84	2.07	.84	1.49	.75	1.24	.63	1.39	.79
Female	3.37	.67	2.69	.83	2.10	.93	1.97	.79	1.49	.74	1.36	.60	1.17	.50
Physical fragility														
Yes	3.24	.67	2.73	.88	2.36	.94	2.04	.86	1.46	.69	1.39	.57	1.23	.59
No	3.32	.69	2.49	.87	2.05	.89	1.99	.80	1.49	.75	1.32	.62	1.23	.61
Period of isolation														
Within 14 days	3.27	.73	2.42	.89	2.03	.84	2.09	.81	1.48	.74	1.24	.54	1.24	.60
More than 14 days	3.36	.64	2.63	.84	2.15	.97	1.89	.79	1.49	.74	1.42	.67	1.23	.67
Place of isolation														
Only at home	3.38	.68	2.58	.89	2.05	.92	2.00	.80	1.41	.68	1.30	.58	1.18	.48
Only at hospital	3.22	.68	2.39	.77	2.18	.88	2.02	.79	1.67	.86	1.37	.59	1.27	.66
Home and hospital	3.08	.75	2.41	.95	2.11	.85	1.94	.89	1.59	.80	1.44	.79	1.48	.60

4 shows the descriptive statistics of seven coping strategies under maladaptive coping strategies.

The Friedman two-way analysis with Bonferroni correction was employed and found a significant difference among adaptive coping strategies used by all participants and participants in the subgroup. The results based on post hoc analysis were summarized in Table 5 (see appendix B for the full results, available at https://osf.io/xuyr4).

In general, acceptance and religion are adaptive strategies used by both genders, physical fragility, and isolation characteristics. In terms of gender, regarding the adaptive coping strategies, both males and females use acceptance and religion most commonly, but males also utilize informational support. Planning is the least commonly used coping strategy in both males and females. However, males use other coping strategies (planning, active coping, emotional support, and positive reframing) least commonly. Regarding the maladaptive coping strategies, self-distraction is the most commonly used by both genders. Substance use is the least commonly used by both genders, but males rarely used behavioral disengagement and denial.

In terms of physical fragility, no different frequency is found in the use of adaptive coping strategies among individuals with physical fragility. In other words, all of the coping strategies

Tab. 5. Summary of post hoc analysis.

Chacarteristics		Adaptive Coping		Maladaptive Coping	
		The most frequently-used	The least frequently-used	The most frequently-used	The least frequently-used
All Respondent		Acceptance and religion	Planning and active coping	Self-distraction	Substance use, behavioral disengagement, and denial
Gender					
	Male	Acceptance, religion, and informational support	Planning, active coping, emotional support, and positive reframing	Self-distraction	Substance use, behavioral disengagement, and denial
	Female	Acceptance and religion	Planning	Self-distraction	Substance use
Physical fragility					
	Yes	No significant differences	No significant differences	Self-distraction, venting, self-blame	Substance use, behavioral disengagement, and denial
	No	Acceptance and religion	Planning	Self-distraction	Substance use, behavioral disengagement, and denial
Period of isolation					
	Within 14 days	Acceptance, religion, positive reframing, informational support, emotional support	Planning and active coping	Self-distraction	Substance use, behavioral disengagement, and denial
	More than 14 days	Acceptance and religion	Planning and active coping	Self-distraction	Substance use, behavioral disengagement, and denial
Place of isolation					
	Only at home	Acceptance, religion, positive reframing, informational support, emotional support, active coping	Planning	Self-distraction	Substance use, behavioral disengagement, and denial
	Only at hospital	Acceptance, religion, positive reframing	Planning and active coping	Self-distraction	Substance use, behavioral disengagement
	Home and hospital	No significant differences	No significant differences	Self-distraction and venting	Substance use, behavioral disengagement, denial, humor and self-blame

are used relatively equally. As for individuals with no physical fragility, acceptance and religion are the most commonly used coping strategies, while planning is the least. Regarding the maladaptive coping strategies, individuals with physical fragility use self-distraction, venting, and self-blaming, while those without physical fragility only use self-distraction. On the other hand, substance use, behavioral disengagement, and denial are the least commonly used by both individuals, regardless of their physical fragility.

The period of isolation encourages patients to apply various coping strategies. While patients whose isolation period is more than 14 days use acceptance and religion the most commonly, those isolated within 14 days use positive reframing, informational support, and emotional support in addition to acceptance and religion strategies. Planning and active coping are the least commonly used, regardless of their period of isolation. As for the maladaptive coping strategies, both groups show the same tendency in the use of strategies as self-distraction is the most commonly used, whereas substance use, behavioral disengagement, and denial are the least commonly used.

For the place of isolation differences, no different frequency is found in the use of adaptive coping strategies among isolated patients at home and hospital. Acceptance, religion, and positive reframing are the most commonly used strategies by patients who are isolated only in the hospital, whereas those who are isolated only at home use informational support, emotional support, and active coping in addition to those who are treated only at home. The patients who are isolated at home rarely use planning. To some extent, patients isolated in the hospital is similar to patients isolated at home in a way that they rarely use planning strategy, but they are different in the use of active coping. Related to maladaptive coping, all patients use self-distraction the most commonly regardless of their place of isolation. However, venting is also used by the isolated patient at home and hospital. Substance use and behavioral disengagement are the least commonly used coping strategies regardless of isolation facilities. In addition, denial is the least commonly used by those treated at home, while those treated in both facilities use denial, humor, and self-blaming the least commonly.

Discussion

The present study aimed to investigate what coping strategies were used by patients with COVID-19 and explore the differences in coping strategies applied by gender, physical fragility (e.g., pregnant women and the elderly), and isolation characteristics. Our study reveals that participants employed both adaptive and maladaptive coping skills, and adaptive coping strategies are more commonly used compared to maladaptive strategies, regardless of gender, physical fragility, and isolation characteristics. Among the adaptive coping strategies, acceptance and religion were generally most commonly used, while planning was the least commonly used. Of all maladaptive strategies, self-distraction was consistently found as the most commonly used coping strategy. While most participants use particular coping strategies more commonly, individuals with physical fragility and those who are in isolation both at home and at the hospital used all of the adaptive coping strategies relatively equally. Of the maladaptive coping, most participants use self-distraction, while the participants with physical fragility and were isolated both at home and at the hospital employ venting and self-blaming in addition to self-distraction.

Comparing our findings with the literature, Shetty's study on COVID-19 infected patients in India reported similar findings and found that adaptive coping strategies were used more often than maladaptive ones (Shetty et al., 2021). This reflects the benefits of using adaptive coping strategies to cope with stressful situations and experiences, including reducing psychological distress (Yu et al., 2020), resulting in lower depression levels (Skapinakis et al., 2020). Besides, adaptive coping is also useful in controlling negative feelings (Desyana, 2019).

A closer look at the adaptive coping strategies, acceptance and religion are the two most commonly used strategies. Aspinall et al. (2021) suggest that many Indonesians tend to see the COVID-19 pandemic as an unchangeable situation and thus they feel competent to accept the consequences of the pandemic. Carver et al. (1989), further explain that the use of acceptance is common when the stressor is considered hard to change. In the case of the COVID-19 pandemic, the unchangeable situation includes being infected by COVID-19 and being in a severe lockdown (during measuring coping strategies, Indonesia was in a complete lockdown). Religion – based strategies refer to how an individual asks for the help of God in insecure moments and tries to find comfort in spiritual belief and religious activities such as praying or meditating (Carver, 1997). These findings are not unexpected as Indonesia is a predominantly Muslim country and most of the inhabitants are religious. It indicates that the religious side of Indonesian society seemingly exerts a significant influence on each individual's life, even serving as a coping strategy in facing stressful situations. Several studies confirmed our findings. Research conducted by Hakim (2020) on the uninfected general population in Indonesia showed that respondents widely used religious activities or religiosity to maintain their composure during the COVID-19 pandemic. In addition, comparable research on earthquake survivors in Indonesia shows that spirituality is associated with adaptive coping (Adami & Sulisyorini, 2008) and is used to deal with natural disasters (Lestari, 2019). Our finding is also in line with Salman et al.'s (2020) study on non-infected Pakistani university students dealing with the social disruption caused by the COVID-19 pandemic. The study found that religion and acceptance are the most commonly used coping strategies. This similarity may be explained by the fact that Pakistani and Indonesians are both people that consider religion an important element in their lives.

To come back to the maladaptive coping strategies, self-distraction was found as the most commonly used coping strategy. Self-distraction reflects problem avoidance by engaging in substitute activities (Stanisławski, 2019). During the COVID-19 situation coping process, self-distraction can be considered maladaptive since a high level of self-distraction has been associated with more negative outcomes, such as depression and stress (Gurvich et al., 2021).

Certain adaptive coping strategies are more often used than maladaptive strategies by most participants, but equal use of adaptive and maladaptive coping strategies was found among individuals with physical fragility and those who are isolated at both home and hospital. This result may reflect the more stress experienced by those two subgroups since they have more problems to solve and potentially were more anxious about their situation. Although our study did not measure the mental health outcomes of the participants, according to Skapinakis et al. (2020), using simultaneous adaptive coping strategies could increase individuals' adaptability to stressful events. Patients with physical fragility and who are isolated in both home and hospital use more types of maladaptive coping strategies than the other participants. In addition to self-distraction, they also employ venting and self-blaming, which are considered negative emotional coping strategies and were classified as "less effective" strategies (Stanisławski, 2019). Venting was correlated with stress (Gurvich et al., 2021), because it escalates negative emotion but also interferes with implementing instrumental actions (Carver et al., 1989), while self-blaming correlated with depression and stress (Gurvich et al., 2021), and with long-term anxiety (Liverant et al., 2004).

This is the first study that investigates coping strategies in infected individuals in Indonesia, a middle-income country that is highly affected by the COVID-19 pandemic. Our study included a wide range of participants from several islands in Indonesia. There are also some limitations worth mentioning. First, due to practical constraints, the present study did not engage those without internet connections and relied on network invitations. In other words, it cannot be determined whether the result of the study can be applied to participants with no internet connection. For the general picture, the number of internet users in Indonesia is around 220 million, or 77.02% of the population (Asosiasi Penyelenggara Jasa Internet Indonesia, 2022). In conjunction with COVID-19 restrictive policies, this knowledge is collected by self-reports of the participants; hence further verification is needed. The convenience sampling technique limits the result of this study from being easily generalized to the population. This is potentially skewed as 70% of participants were female and 90,1% were university students, making generalization difficult. The smaller group sizes for frailty and gender comparisons may also limit the generalizability of our findings. Furthermore, we could not provide the calculation of the response rate. Last, the absence of mental condition measurements limits us from revealing the correlation between coping strategies and mental health outcomes.

Conclusion

This study has identified that patients with a COVID-19 infection mostly followed adaptive coping strategies to deal with mild to moderate symptoms of COVID-19 infection, which according to the literature review, are considered adaptive to resolve adverse situations such as a pandemic. More attention should be given to infected people who have physical fragility and are isolated both at home and in hospital, who use more maladaptive coping strategies than other subgroups. If this tendency continues, their mental health could be affected. Therefore, a mental health professional could design a companion program for those subgroups, to reduce the use of maladaptive coping and train them in more positive coping strategies. We recommend that future researchers include measuring mental health in participants to understand the association between coping strategies and mental health outcomes.

Ethical Approval

Ethical approval for this study was granted by Universitas Padjadjaran Ethical Committee Number 145/UN6.KEP/EC/2021

Data Availability Statement

Data can be accessed upon request from the corresponding author

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Author Contributions

FAA: Conceptualization, methodology, writing—original draft, writing—review & editing. R: data collection, data analysis, project administration. JKT: Supervision, validation, writing—review & editing. All authors have read and approved the final manuscript

Conflict of Interests

The authors declare that they have no conflicts of interest related to this study

Supplementary material

Appendix A and Appendix B are available at https://osf.io/xuyr4

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