

# Psychological Status among the Young Muslim Community in Yogyakarta Province, Indonesia, during the COVID-19 Pandemic

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## ABSTRACT

**INTRODUCTION.** Since the COVID-19 pandemic, psychological well-being has become a growing concern. Coping strategies, including religious activities, are needed to deal with psychological distress. This study aimed to evaluate the prevalence of psychological status and its relationship with religious activities among young Muslims in Yogyakarta province, Indonesia, during the COVID-19 pandemic. **MATERIALS AND METHODS:** Our cross-sectional study was conducted during the second and third waves of the COVID-19 pandemic in Indonesia. A total of 268 young Muslim from Islamic boarding schools in Yogyakarta province, Indonesia, were included in the study. A self-reported questionnaire containing sociodemographic information, religious activity, and Depression, Anxiety, and Stress Scales-21 (DASS-21) was filled up by the study participants. A descriptive and bivariate analysis was performed accordingly. **RESULTS:** Out of 312 people screened, a total of 268 participants were included in this study. The majority of participants were male (64.6%), aged between 14 to 18 years (55.2%), studying in high school (53.0%), memorised 1 to 10 juz (section) (79.1%), recited the Al-Quran 1 to 3 hours/day (59.3%), and fasted every Monday and Thursday (47.4%). The prevalence of depression, anxiety, and stress were 24.6%, 46.6%, and 29.1%, respectively. Young Muslims with high religious activities were noted to be less suffering from depression, anxiety, and stress, but it was not statistically significant ( $p=0.57$ ). **CONCLUSIONS:** This study reported a high prevalence of depression, anxiety, and stress (from mild to extremely severe) among the young Muslim community in Yogyakarta, Indonesia. Our findings should raise awareness of the educational institutions, government, and public and trigger them to prepare appropriate preventive strategies for psychological distress in the young population.

### Keywords

religious activity, depression, anxiety, stress, young Muslim

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Received: 29<sup>th</sup> Aug 2022; Accepted: 7<sup>th</sup> May 2023

Doi: <https://doi.org/10.31436/imjm.v22i3>

## INTRODUCTION

Coronavirus disease 2019 (COVID-19) was first detected in Wuhan, China, in December 2019 and spread worldwide immediately, so it was declared a global pandemic by the World Health Organization (WHO) in March 2020.<sup>1</sup> Social restrictions as a preventive response to COVID-19 were implemented but contributed to decreased physical activity and social interaction and caused the economic crisis. As a result of this situation, many studies have reported psychological distress since the beginning of the COVID-19 pandemic.<sup>2-4</sup> Furthermore, the pandemic has been going on for two years. Also, as of March 2022, Indonesia has survived the

third wave of COVID-19.<sup>5</sup>

COVID-19 has negatively impacted adolescents and appears to be greater than adults.<sup>6</sup> Those negative impacts include insomnia, fear, anxiety, and trauma.<sup>7</sup> Young people are notably vulnerable to suffering depression, anxiety, and stress.<sup>8</sup> Literature review demonstrates that adolescents experience more psychological disorder symptoms than the healthy general population and those who experienced psychological disorders. COVID-19 causes them to be confined at home, while adolescents prefer activities outdoors and hanging out with friends, which is important

for their development. In addition, online learning makes them bored, increases stress, and negatively impacts emotions and behaviour.<sup>9</sup>

Adolescents that attend Islamic boarding schools (*pesantren*) are different. During the COVID-19 pandemic, Islamic boarding schools allowed students to attend in-person classes because online was deemed ineffective. Still, going back home or meeting with parents is restricted. Students can still meet their peers at the Islamic boarding school. Nevertheless, living in an isolated environment like this increases the risk of COVID-19 transmission since not all residents comply with health protocols. In addition, the Islamic boarding school facilities are limited, making their interaction very intensive.<sup>10</sup> However, studies on psychological status among adolescents in Islamic boarding schools are still rare. Evaluating the psychological status of religious people at a young age is necessary. The hope is that early recognition and treatment of behavior health disorders can prevent complications, improve quality of life, and help reduce healthcare costs.<sup>11</sup>

Coping strategies are needed to deal with psychological distress due to the COVID-19 pandemic. One of which is religious or spiritual coping. The spiritual activity gives a sense of serenity because of closeness to the helper, God, and being part of recreation.<sup>12</sup> Spiritual activity can encourage positive thinking and prevent discouragement. Religious activities getting closer to God can make a person feel calm and increase immunity.<sup>13</sup> As reported in a previous study, beliefs and practices associated with positive religious or spiritual coping act as a promotive factor for better psychological status, including responding to the COVID-19 pandemic.<sup>14</sup> This report is supported by a recent study on boarding school students in Indonesia, which demonstrated that higher levels of spirituality were associated with lower anxiety levels.<sup>3</sup>

This study aims to evaluate the psychological status comprising depression, anxiety, and stress during the COVID-19 pandemic among the young Muslim community in Yogyakarta province, Indonesia, and its relationship with religious activities.

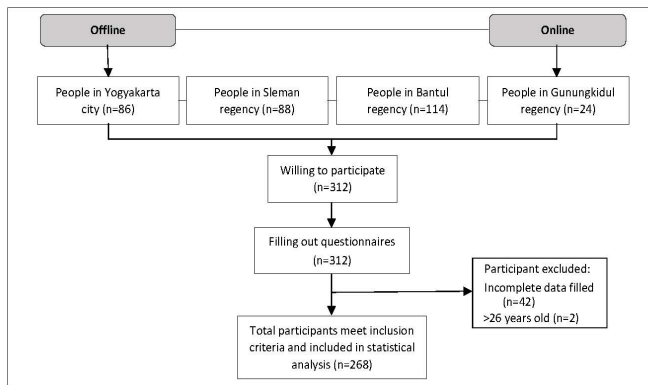
## MATERIALS AND METHODS

### Study design

This cross-sectional study was conducted by distributing offline and online questionnaires from October 2021 to February 2022 to Islamic boarding schools in Yogyakarta province, Indonesia. The province consists of four districts, including Yogyakarta City, Sleman, Bantul, and Gunungkidul regencies. Subjects were determined by cluster sampling. Questionnaires were distributed offline by implementing health protocols, and online using Google Form links via LINE and WhatsApp due to meeting and activity restrictions. The inclusion criteria were the young Muslim community who routinely worshipped and participated in religious activities, male and female aged 14-26 years, and expressed their willingness to participate by filling out an informed consent. The exclusion criteria were having psychiatric problems in the last month. The sample size for the correlation test is calculated using *sample-size.net*. The confidence interval was determined to be 95%,  $\beta$  error of 20%, and the expected correlation coefficient ( $r$ ) of 0.175. The minimum sample size resulted in 254.<sup>15</sup> Before filling out the questionnaire, participants were given informed consent regarding directions about the study, information that all data to be collected was confidential, participation was voluntary, and willingness to participate. This study procedure was carried out after obtaining approval from The Ethics Committee of the Faculty of Medicine, Universitas Islam Indonesia, Yogyakarta, Indonesia (Number:10/Ka.Kom.Et/70/KE/VIII/2021). The recruitment strategy of participants in this study is presented in Figure 1.

### Assessment instrument

A self-reported questionnaire comprising of sociodemographic data (location of residence, gender, age, education, the quantity of memorised the Quran, the intensity of reading the Quran fasting performed, and duration of fasting) and psychological status assessment (using DASS-21 questionnaires) was distributed to the study participants. The questionnaire used in this study was the Indonesian version of DASS-21. It is a valid and



**Figure 1.** Participant recruitment flow diagram

reliable instrument for measuring depression, anxiety, and stress in college students.<sup>19</sup> The overall reliability coefficient is 0.910, and each subscale is 0.794, 0.785, and 0.800 for depression, anxiety, and stress.<sup>16–18</sup> The minimal score of DASS-21 is 0, and the maximal total score is 63. The psychological status subscores were summed and classified into five categories to determine the prevalence of psychological conditions (normal, mild, moderate, severe, and extremely severe) and two categories for bivariate analysis. The religious activity scores were summed from fasting, reciting, and memorising Quran. Dawood fasting, the Quran memorisation of more than 20 juz (section), and reciting the Quran intensity of more than 7 hours/day were scored 3. Not fasting, the Quran memorisation of less than ten juz, and reciting the Quran intensity of fewer than 3 hours/day were scored 1. The spiritual activities score was classified according to three categories. The low religious activity score was 1-3, the moderate religious activity score was 4-6, and the high religious activities score was 7-9.

## Statistical analysis

Categorical data are shown as frequency and percentage. A bivariate analysis using Spearman's rho test was performed to correlate religious activities and score DASS-21 with a confidence interval of 95%. P-value < 0.05 was considered statistically significant.

## RESULTS

### Sociodemographic characteristics of participants

Two hundred and sixty-eight (N=268) participants completed the questionnaire. More than half of the

participants (64.6%) were males, and 35.4% were females. The age frequency showed that 55.2% of participants were from 14 to 18 years and 44.8 % were from 19-26 years old. In addition, about 53% of participants studied in high school, and 47% studied in college (Table 1). All respondents did minimal religious activities, at least reading the Quran for 1 hour and memorising 1-10 juz. The prevalence of depression, anxiety, and stress (mild to moderate) were 24.6%, 46.6%, and 29.1%, respectively (Table 2).

**Table 1.** Sociodemographic characteristics of participants (N = 268)

Variables	Frequency	%
Gender		
Female	95	35.4
Male	173	64.6
Age		
19 to 26	120	44.8
14 to 18	148	55.2
Education		
College	126	47.0
High school	142	53.0
The Quran memorisation (juz)		
21 to 30	11	4.1
11 to 20	45	16.8
1 to 10	212	79.1
Reciting the Quran intensity (hours/day)		
7 to ≥ 10	29	10.8
4 to 6	80	29.9
1 to 3	159	59.3
Fasting type		
Dawood	49	18.3
Monday-Thursday	127	47.4
Not fasting	92	34.3

**Table 2.** Prevalence of psychological status

Psychological status	Frequency	%
Depression levels		
Normal	202	75.4
Mild	31	11.6
Moderate	26	9.7
Severe	5	1.9
Extremely severe	4	1.5
Mild to extremely severe	66	24.6
Anxiety levels		
Normal	143	53.4
Mild	59	22.0
Moderate	29	10.8
Severe	21	7.8
Extremely severe	16	6.0
Mild to extremely severe	125	46.6
Stress levels		
Normal	190	70.9
Mild	45	16.8
Moderate	22	8.2
Severe	5	1.9
Extremely severe	6	2.2
Mild to extremely severe	78	29.1

Depression scoring: normal (0-4), mild (5-6), moderate (7-10), severe (11-13), extremely severe (≥ 14); Anxiety scoring: normal (0-3), mild (4-5), moderate (6-7), severe (8-9), extremely severe (≥ 10); Stress scoring: normal (0-7), mild (8-9), moderate (10-12), severe (13-16), extremely severe (≥ 17)

## Association between psychological status and spiritual activities level

Low and moderate religious activity levels frequently suffered depression, stress, and anxiety. On the contrary, the percentage of respondents with more frequent religious activities showed less depression, anxiety, and stress, even though it was not statistically significant (Figure 2). The average total score of DASS-21 still shows mild normal (score 12), but one person needs further psychiatric assessment because the score is more than 60. The mean of the DASS-21 total score was lower in the group with high religious activity, but not significantly (Figure 3).

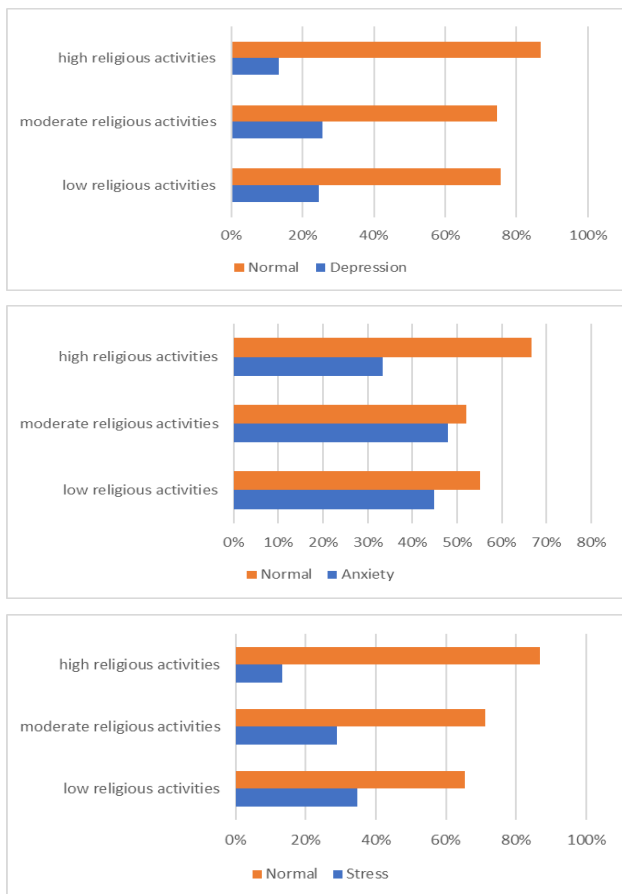


Figure 2 Percentage of cases of depression, anxiety, and stress based on DASS 21 at the level of religious activities.

## DISCUSSION

The current study showed the prevalence of depression, anxiety, and stress (mild to extremely severe) were 24.6%, 46.6%, and 29.1%, respectively. In our study, anxiety and stress prevalence during the COVID-19 pandemic were higher than in the general population worldwide, as

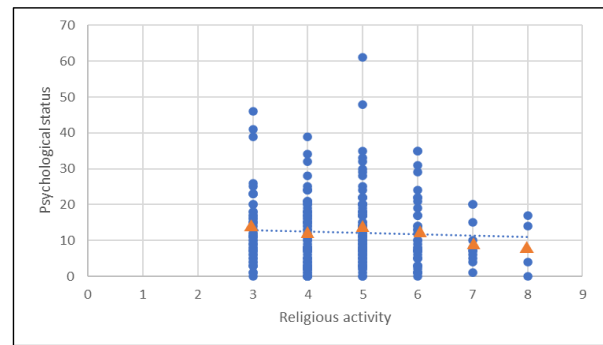


Figure 3. Association between religious activity and psychological conditions. Psychological status based total score of DASS-21; Score of spiritual activities from fasting or not, reciting the Quran, and memorising the Quran. P-value: Spearman's rho test ( $p = 0.57$ ). Orange triangle: mean.

reported in a recent meta-analysis.<sup>20</sup> However, this study reports that each country can have a very different prevalence. For example, in Malaysia, the prevalence is 4.49%, 4.36%, and 5.10%, respectively. In contrast, the prevalence of depression and anxiety in Iran is higher, than us 44.9% and 47.1%, respectively. This is also related to the situation in a different area during the spike in COVID-19 cases.<sup>20</sup> The results of this study indicate that the prevalence of anxiety is quite high. However, it is still lower than adolescents in Islamic boarding schools in Malang, 76.7%.<sup>21</sup> This is due to the different research periods. Other factors, such as personality and previous history of trauma, family history, and friends and relatives who died from COVID-19, possibly have effects.<sup>22</sup> COVID-19 vaccination history may affect psychological conditions. Studies involving 1257 teachers in Bangladesh, 453,167 people in the United States, 4244 in China, and 304 in Turkey demonstrated that those who had received the vaccine had a lower prevalence of stress, depression, anxiety, post-traumatic stress disorder, insomnia, and fear symptoms.<sup>23–26</sup> People who feel more at risk of being infected with COVID-19 are likely to get vaccinated.<sup>23</sup> Unfortunately, this study was not observed.

A study by Ramón-Arbués et al.<sup>27</sup> reported being <21 years old, smoking, insomnia, having problematic Internet use behaviour, and having low self-esteem as predictors of depression, anxiety, and stress. Our study participants were still young (14 to 26 years old). Based on previous studies, younger age (<35 years) was associated with a more severe prevalence of depression, anxiety, and stress than older age.<sup>28</sup> Furthermore, previous studies in Indonesia also showed similarly that younger participants

reported higher DASS-21 scores than older participants.<sup>29</sup> Young people are in a phase that is vulnerable to poor psychological conditions, and it seems that the COVID-19 pandemic has aggravated their condition.<sup>20,30-32</sup> In addition, the relatively high prevalence of stress may be triggered by a lack of adaptability because living in a boarding school environment has strict regulations and limited facilities.<sup>33</sup> It is plausible that the prevalence of depression, anxiety, and stress was high in our study.

We evaluated the total of religious activities consisting of the memorisation quantity and reciting intensity of the Quran as well as fasting habits to have a better psychological status. However, it was not statistically significant. In contrast, a study by Saquib et al.<sup>34</sup> reported a dose-response relationship that those who memorised at least ten juz of the Quran had less risk of depression compared to those who memorized <0.5 juz. Previous studies have shown a relationship between the duration of reading the Quran and stress reduction.<sup>35</sup> A study in Iran also showed that Bachelor science students who read the Quran had less depression, anxiety, and stress.<sup>36</sup> A Systematic Review and Meta-Analysis reported that fasting people had lower anxiety levels ( $b=-0.508$ ,  $p=0.038$ ) and depression ( $b=-0.281$ ,  $p=0.012$ ) than controls.<sup>37</sup> In addition, Dawood fasting has been reported to improve anxiety in the elderly and pre-elderly.<sup>38</sup> Likely, the different findings in our study were influenced by the fact that all our participants had spiritual activities. We did not enclose control participants which no spiritual activities.

Reading the Quran can improve emotions, heart rate, and respiration to become stable, giving the effect of several hormones that cause relaxation.<sup>39</sup> Memorising the Quran can improve the brain's ability to form and retain memories. The greater the amount of memorising activity, the greater the brain's ability to process, remember information and build memory. It stimulates the body's immunity; a decrease reduces stress in cortical secretion levels. Memorising the Quran is an effective stress reliever because the higher the memorisation, the stronger the psychological drive for their beliefs, including happiness, satisfaction, and a positive attitude. It may provide benefits like prayer or singing for people of other religions. Findings from Rahman et al. showed that the

grey, white, and total brain volume of those who memorised the Quran was more remarkable than those who memorised only part of the Quran or did not memorize the Quran. In addition, reciting Al Quran can produce a calm state of mind.<sup>40</sup> While fasting can improve depression associated with increased blood ketone bodies. Ketones are an alternative energy source for the brain, thereby inducing the expression of brain-derived neurotrophic factor (BDNF). This increase leads to increase synaptic and dendritic plasticity as well as neuronal resistance to injury and degeneration.<sup>41</sup>

Practical implications of the study. The current study has provided an overview of the psychological status of the young Muslim community in Yogyakarta, Indonesia. This study can be a reference for educational institutions, the government, and the general public to pay more concern to psychological health, especially for young people. They are at an age vulnerable to psychological distress, which, if not handled immediately, will reduce learning and work productivity and harm their future. Educational institutions must screen their students' psychological status routinely and prepare appropriate strategies to prevent more severe psychological distress.

Our study has some limitations, such as not evaluating vaccination status and level of knowledge, attitude, and practice towards COVID-19 that might contribute to psychological status. The study's limitations include not exploring personality, family history of death due to Covid-19, and adaptability while living in the boarding school. The third limitation is related to the statistical nature of the study because the number of participants with high religious activity is only a tiny size. The fourth limitation is related to the control participant. It is no participant without religious activity.

## CONCLUSIONS

In conclusion, psychological status consisting of depression, anxiety, and stress levels (mild to extremely severe) among the young Muslim community in Yogyakarta, Indonesia, showed a high prevalence. We found that high religious activity has less depression, anxiety, and stress than low and moderate-level religious

activities. Our study findings could be helpful for educational institutions, governments, and the general public to raise their concerns and prepare appropriate strategies to prevent young people's psychological distress.

## ACKNOWLEDGEMENTS

The authors would like to thank the Faculty of Medicine of the Universitas Islam Indonesia for partially providing funding (Number: 463/Dek/70/TimHibahMahasiswa/V/2021).

## CONFLICT OF INTEREST

There is no conflict of interest.

## AUTHORS' CONTRIBUTIONS

All authors contributed equally to this study.

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