Mudik during the Covid-19 pandemic, anxiety, and depression among students in Indonesia

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Abstract

Purpose: This study explores the occurrence and different levels of anxiety and depression among male and female students who perform or do not perform *mudik* (homecoming). Investigate the primary source of COVID-19 related information among students. **Methods:** Online questionnaires consisting of the self-report level of anxiety and depression were delivered to study participants after completing the online informed consent. Quantitative analysis was conducted using the IBM SPSS version 20.0. **Results:** From a total of 2018 study participants, n=936 were students. Depression (M=8.68; SD= 5.45) was higher among students who did not perform *mudik*. Meanwhile, the prevalence rate of depression (M=7.18; SD=4.99) was also higher among students who performed *mudik*. A significant difference [sig (2-tailed) = 0.017; $p < 0.05$] regarding the level of anxiety was reported higher among female students (M=7.80; SD=4.6) than male students (M=7.03; SD=4.7) and no significant difference [sig (2-tailed) = 0.173; $p > 0.05$] was reported for the level of depression between male and female students. Instagram was reported as the primary source of COVID-19 related information. **Conclusion:** This current study supports the notion regarding the occurrence of common mental disorders among students as an impact of the COVID-19 pandemic, regardless of whether homecoming was performed or not. Different levels of anxiety and depression were reported between the male and female student population.

Keywords: anxiety; depression; homecoming (*mudik*); social media; students; COVID-19

INTRODUCTION

The COVID-19 outbreak has caused a worldwide disruption that no one was prepared for. A range of health protocols was advised as physical-social distancing was advocated publicly to suppress the level of virus transmission. Thus, the importance of staying at home has been magnified. Employees were instructed to work from home, and students attend an online school. Moreover, government offices and public facilities were either completely closed or remained open with limited operating hours and visitors. However, in Indonesia, home confinement's safety measures further led to a new challenge during the pandemic, particularly in *mudik* or homecoming cultural practice. *Mudik* is a social-cultural phenomenon that takes place around Eid al-Fitri, an Islamic festival after Ramadan fasting [1]. It is noteworthy to acknowledge further that even though *mudik* more often occurs as Eid al-Fitri approaches its end, it does not mean that *mudik* is part of the Islamic teaching. *Mudik* can also happen around Christmas and New Year holidays. Tthe term is derived from the word *udik*, which means village or smaller cities [2]. Thus, the definition of *mudik* itself is traveling back home from a big city to a village or smaller cities.

To level with the incidence of virus transmission and infection, Indonesia's government has declared

mudik prohibited. The current President of Indonesia, Joko Widodo, even suspended land, sea, and air transportation to prevent a new cluster during the COVID-19 outbreak. Even though the regulation has been enforced, a massive mobilization of people through different transportation modes is noticeable, demonstrating that home confinement during the COVID-19 pandemic becomes a challenge as it works against a long-known cultural practice.

Not only is it a challenge to not perform homecoming, but COVID-19 has also provoked other drastic challenges for many individuals when carrying out daily activities and work performances. For students, COVID-19 has also generated dramatic adjustments as some campuses strictly prohibit visits and limit their student visitors. This campus-life adjustment further leads to the occurrence of common mental disorders, notably anxiety and depression. The new off-campus regulation requires students to adapt from direct face-to-face class interaction to online platforms in which further difficulties might arise for students without access to computers and stable internet connection at home [3]. Studying can become more complicated as not all course materials, such as lab work, can be delivered through an online learning platform.

Many studies have reported anxiety and depression among university students [4–7]. These findings highlight the verifiable truth that common mental disorders are prevalent among students and may be caused by study demands, independent living, financial issues, and interpersonal relationships. Taking the existence of anxiety and depression into account, it can further be forecasted that the current campus-life adjustment due to COVID-19 may further increase the prevalence of anxiety and depression [8–12]. Not knowing the pandemic's end timeline and given the circumstances of working and studying from home, presumably, some students are then inclined to perform *mudik* despite being prohibited.

The authors of this study were interested in exploring common mental disorders during the COVID-19 pandemic among Indonesian students accustomed to the cultural performance of *mudik*. For this, the purpose of the current study is to investigate further the prevalence of anxiety and depression among Indonesian students who perform/do not perform *mudik* during the COVID-19 pandemic and explore the different levels of such common mental disorders among male and female students. An additional purpose was to explore which source of COVID-19 related information was retrieved by students, thus triggering the occurrence or intensifying anxiety and depression manifestation. To the authors'

extent, this study is among the first to raise the topic of *mudik* and the different anxiety and depression levels among Indonesian (male and female) students.

METHODS

Participants and Procedure. We aim to recruit 2000 study participants from the general Indonesian population from males and females, 18 years of age and above, and perform or not perform *mudik*. From the recruited study participants of the general population, we will retrieve the student population data as the study's targeted population. The research questionnaires will be given online via google form after the prospective study participant declares their willingness to participate in this research.

Measures. The Indonesian version of Generalized Anxiety Disorder-7 (GAD-7) was used to measure the level of anxiety. GAD-7 is a 7 item self-reported scale which is scored, 0=not at all, 1=several days, 2=more than half the days, 3=nearly every day. The total score of GAD-7 is then interpreted as minimal (0-4), mild (5-9), moderate (10-14), and severe (14-21) [13]. To the extent of the authors' knowledge, the Indonesian version of GAD-7 has not been validated. To assess the level of depression, the 9-scale self-report Indonesian version of Patient Health Questionnaire-9 (PHQ-9) will be administered. The total score of PHQ-9 is interpreted as 1-4=no depression, 5-9=mild depression, 10-14=moderate depression, 15-19= moderately severe depression, and 20-27=severe depression [14]. To the extent of the authors' knowledge, the Indonesian version of PHQ-9 has not been validated. Nevertheless, in research studies conducted in Western countries, PHQ-9 and GAD-7 have indicated good psychometric properties. PHQ-9 has shown high internal consistency and a good reliability value of .89 and .83, respectively. Meanwhile, good internal consistency (.92) was reported for GAD-7 with a reliability value of .83 [14]. For pragmatic reasons, we used the Indonesian version of PHQ-9 and GAD-7 as this was administered in a feasibility study [15,16].

Analysis. Quantitative analysis (independent sample t-test) will be administered to assess the different anxiety and depression levels between male and female students who either perform or do not perform homecoming.

RESULTS

A total of n=936 students (from N=2018 general population) were recruited from August 26th, 2020 - September 7th, 2020, submitted the online informed consent and completed the online self-reported

Table 1. Participants' demographic characteristics

Characteristics	N (%)
Age (years)	
27.89 (10.5) (age, mean/SD)	2018
18-65 years old (range)	
Gender	
Female	1379 (68.4%)
Male	639 (31.6%)
Qualification	
High school and under	700 (34.7%)
Diploma	139 (6.9%)
Bachelor	949 (47.0%)
Masters	223 (11.1%)
Post-graduate	7 (0.3%)
Job status	
Student	936 (46.4%)
Employed	840 (41.6%)
Province	
Unemployed	242 (12%)
Special Region of Yogyakarta	486 (24.1%)
Central Java	262 (13%)
Jakarta Capital Special Region	256 (12.7%)
Other	1014 (50.2%)

questionnaire to assess the level of anxiety and depression using GAD-7 and PHQ-9, respectively.

Table 1 shows sample characteristics. The median age was 27.8 years old (with an age range of 18–65 years old). Study participants were predominantly female (68.4%), students (46.4%), undergraduate /bachelor (47%), and 24% reside in the Special Region of Yogyakarta province (n=486). From a total number of n=2018 participants, n = 936 were students and consisted of students who performed *mudik* (n=319) and students who did not perform *mudik* (n=617).

Table 3 reports a significant difference [sig (2-tailed) = 0.017; p <0.05] in anxiety with female students reported to have higher anxiety levels (M=7.80; SD=4.6) compared to male students (M=7.03; SD=4.7). Meanwhile, no significant difference in the level of depression [sig (2-tailed) = 0.173; p> 0.05], between male and female students were reported in this study.

As seen in Figure 1, in specific Instagram, social media was reported as the primary source of COVID-19 related information retrieved by the students in this study population.

DISCUSSIONS

This study is the first empirical evidence to report *mudik* occurrence among students in Indonesia and confirm the existence and different typical mental disorder levels among male and female students who perform/do not perform *mudik*.

The majority of students who participated in this study were categorized as bachelor students. The transition from late adolescence to adulthood as they enter university life can be challenging for many students [4], presumably for students in their early

Table 2. Students who perform/not perform *mudik* and the level of depression and anxiety

Category	N (%)	M (SD)
Homecoming	319 (34%)	
Level of depression (PHQ-9)		7.18 (4.99)
Level of anxiety (GAD-7)		6.68 (4.55)
Non-homecoming	617 (66%)	
Level of depression (PHQ-9)		8.68 (5.45)
Level of anxiety (GAD-7)		6.44 (4.38)
Homecoming reason		
Office duties		112 (16.9%)
Holiday		87 (13.1%)
Personal need		345 (52%)
Homecoming		100 (15.1%)
Other		20 (3%)
Different level of depression (PHQ-9)	302 (32%)	8.4 (5.5)
Male	634 (68%)	8.92 (5.29)
Female		7.03 (4.7)
		7.80 (4.6)
Different level of anxiety (GAD-7)		
Male	302 (32%)	
Female	634 (68%)	

bachelor years. The current COVID-19 pandemic has also generated dramatic adjustments as some campuses strictly prohibit visits and limit their student visitors. The new off-campus regulation requires

Table 3. Different level of anxiety and depression among male and female students

|	Levene's Test for Equality of Variance		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig	t	df	Sig (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
GAD-7 score									
Equal variances assumed	.015	.904	-2.400	934	.017	-.773	.322	-1.405	-.141
Equal variances not assumed			-2.382	581.356	.0.18	-.773	.324	-1.410	-.136
PHQ-9 score									
Equal variances assumed	.502	.479	-1.364	934	.173	-.514	.377	-1.254	.226
Equal variances not assumed			-1.338	564.386	.181	-514	.384	-1.268	.240
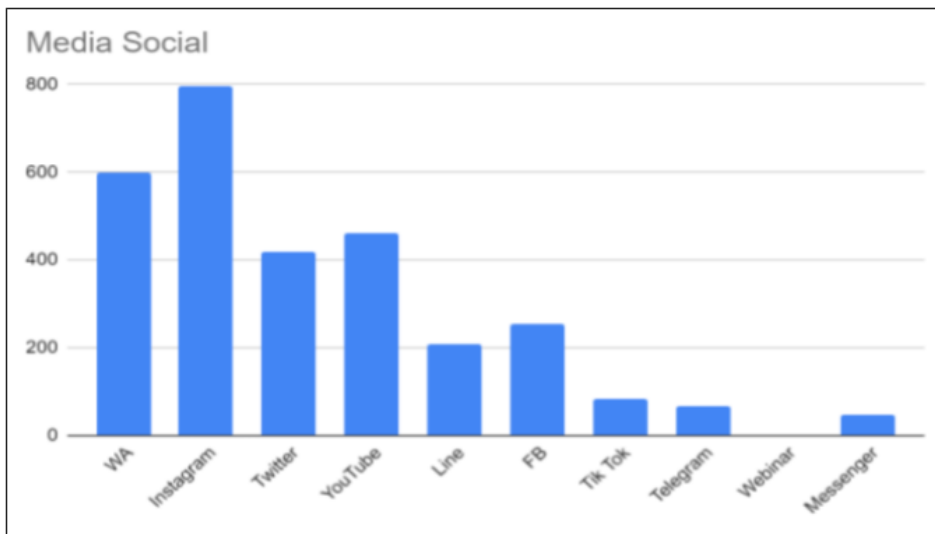
Figure 1. The primary source of COVID-19 related information retrieved by students

students to adapt from direct face-to-face class interaction to online platforms [3]. Not knowing the pandemic's end timeline increases mental health issues, thus, may further hinder, for example, student's academic performance and their interpersonal relationship due to physical distancing [3]. Subsequently, given additional circumstances of having to work and study from home, presumably, some students are then inclined to perform *mudik* despite being prohibited. Fulfilling personal needs was reported to be the reason behind *mudik* among student participants. However, we have not further explored this reason and will remain confirmed by future studies.

However, some students do not *mudik*, which was considered a physical, emotional, and financial challenge [17]. Another possible reason that may cause these students to not *mudik* is that these students conform with the advised safety measure of COVID-19 and the government regulations regarding the *mudik* prohibition.

As mental health issues are explored during the worldwide COVID-19 pandemic, this study also confirms both anxiety and depression prominent among students regardless of whether *mudik* was performed or not. The findings on common mental disorders in this study were also reported in other studies [3,8–12,18,19]. A study reported an increased prevalence rate of 42.5% for anxiety and 74.3% for depression, as the highest in occurrence [9]. The current study followed a higher prevalence of depression among participants who perform homecoming (M=7.18; SD 4.99) and who did not perform *mudik* (M=8.68; SD=5.45). These findings were also similar to the Odriozola-Gonzalez *et al.* study, which reported 34.19% of participants reported

moderate to too severe depression symptoms, which is higher than 21.34% of participants who reported moderate to too severe anxiety symptoms when assessed using the DASS-21 among 2.530 student and workers at the University of Valladolid, Spain [10]. A higher prevalence rate of depression than anxiety was also reported in Wang et al.'s study, with a majority of 80.57% of study participants demonstrating some level of depression on the PHQ-9 scale. Meanwhile, the study of Son et al. (2020), taken from a total of 195 student population from a university in Texas, United States, reported that 71% of study participants experienced an increase of anxiety and stress during the COVID-19 pandemic.

Further findings from this study compared the different anxiety and depression levels among male and female student participants. As further reported in this paper and emphasized among this specific student sample, female students indicated higher anxiety and depression levels. These findings were also observed in Hou et al.'s study (2020), reporting that female participants experience more stress and anxiety symptoms during the COVID-19 pandemic [20]. The study of Özdin and Özdin (2020) administered the Hospital Anxiety and Depression Scale (HADS) to assess the occurrence of common mental disorders among the Turkish population during the COVID-19 pandemic [21]. Female participants in the study above reported more significant psychiatric impact as a higher level of depression, anxiety, and health anxiety were indicated in the study population.

The occurrence of anxiety and depression may also rise due to disseminating COVID-19 related risk-frames news [22,23]. In the case of the student population in this study, social media, specifically Instagram, was reported as the primary source of COVID-19 related information retrieved. However, as the only available source of COVID-19 information was provided graphically in this study, further research is needed to strengthen the assumption found between the source of COVID-19 information and its trigger for common mental disorder among students.

CONCLUSION

The present study supports the existence and different levels of common mental disorders among students in Indonesia who perform or do not perform *mudik*. Depression was reported high, and different common mental disorders were confirmed, both among students who perform and do not perform *mudik*.

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