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Impact of Corona Virus Disease-19 Pandemic on Co-Assistant Mental Health

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ABSTRACT

Background: The Coronavirus Disease 2019 (COVID-19) pandemic has an impact on the physical and mental health of individuals and all of society. During the COVID pandemic, all social and physical activities of each individual are limited. Physical-social distancing or physical restrictions have an impact on mental health and psychological problems. This anxiety is also experienced by medical students as Co-Assistants (young doctors) during their education in hospitals. **Objectives:** This study aimed to discuss matters related to the impact of the COVID-19 on medical students' mental health during the pandemic. **Method:** This cross-sectional study used the Self-Reporting Questionnaire-20. Mental health problems of college students during the pandemic were assessed and analyzed for their level of anxiety. This study involved 69 medical students as Co-Assistants (young doctors) in the professional study program using purposive sampling technique. **Results:** The results of the study found that among Co-Assistants who underwent clinical clerkship during the COVID-19 pandemic as much as 44.9% experienced mental health disorders. We also found that the female Co-Assistants were twice as likely to experience mental health problems as male Co-Assistants. The most common type of mental health problem was experiencing symptoms of depression. **Conclusion:** During the two years of the pandemic, while living the 'new normal', Co-Assistants felt the fear of being infected with the lack of personal protective equipment, economic problems for their parents, and facing the challenges of distance education. In comparing the mental health problems of the Co-Assistants, the most common during the COVID-19 pandemic were the symptoms of depression.

Keywords: *Coronavirus Disease 2019, Mental Health, Co-Assistant*

INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) is a positive single-strain RNA virus that typically infects the respiratory tract. Diagnosis of general symptoms can include fever, cough, and difficulty of breathing due to close contact with an infected person¹.

The COVID-19 pandemic has been declared a global public health emergency by the World Health Organization (WHO). Special attention and efforts to protect vulnerable members of society and reduce the widespread transmission continue to be applied, especially toward children, the elderly, and people with comorbidities. Health workers (doctors, nurses, and medical students/Co-Assistants) as the front liners in handling COVID-19 in hospitals are a population that is particularly vulnerable to infection².

According to the WHO, the occurrence of a pandemic causes stress to the wider community. A number of studies show there is a negative impact on the mental health of sufferers. The WHO conducted research concerning the countries experiencing the COVID-19 pandemic on Mental

Health Day on October 10, 2020. The survey results showed that 83% of 130 countries experienced mental health impacts. Fear, anxiety and stress are normal responses to the perceived threats related to the COVID-19 pandemic³.

Mental health is just as important as physical health. The COVID-19 pandemic has a negative impact not only on physical health but also disrupts mental health, including increasing the risk of stress and anxiety, depression, and fear. The people most at risk are health workers working in health services (doctors, nurses, health students and others)⁴. Health problems in health students are a serious concern. During the pandemic, students feel depressed, anxious and stressed⁵. Mental health is a person's ability to manage their mental functions and be able to dynamically adapt to oneself, the surrounding environment and others⁶.

Social and physical activities of each individual are limited. Physical-social distancing or physical restrictions can have an impact on mental health and trigger an increase in psychological problems. Mental health problems were experienced by medical students in Israel during their education in the COVID-19 pandemic, including anxiety,

depression, stress, and other emotional states. The country is still in lockdown, so students have to live a 'new normal' life while being worried about becoming infected, economic problems, the challenges of distance education and the lack of personal protective equipment during their education in hospitals⁷.

According to psychologists and psychiatrists, several types of mild to severe mental disorders have occurred during this pandemic. Psychological impacts during the pandemic were recorded in the form of post-traumatic stress disorder, confusion, insomnia, frustration, anxiety, fear of infection and feelings of helplessness⁸.

This study aimed to discuss matters related to mental health in medical students as Co-Assistants during the COVID-19 pandemic.

METHOD

The cross-sectional study was conducted for 6 months and involved mental health screening on 69 medical students (Co-Assistant) Doctor Profession Study Program, Faculty of Medicine, Islamic University of North Sumatra as research respondents. Sampling was purposive sampling where the sample was students who underwent Co-Assistant education in hospitals for more than 1 year during the pandemic and had undergone clinical clerkship for more than 10 stations.

Kolmogorov-Smirnov tests were used for normality testing because the research sample amounted to >50 people. In this study, the results of the normality test obtained $p > 0.2$ (normally distributed data)⁹.

The instrument used in this study was a Self-Reporting Questionnaire (SRQ). The SRQ was designed by the WHO to assess mental health, and was used to assess the mental health of the Indonesian population in the 2007 Basic Health Research. The questionnaire consisted of 20 closed questions with a yes or no choice. The indicators were used to assess the symptoms of cognitive, anxiety, depression, somatic and decreased energy. The data obtained from this study is presented in frequency and percentage. This questionnaire results are anonymous (demographics were asked but not specifically identified)¹⁰.

Normal results that showed no indication of mental health problems were if the answers were "Yes" to 1-5 questions. If there were "Yes" answers to at least 6 question items, then the respondent is considered to have some mental health problems. Additionally, if there were any "Yes" answers to 6-20 questions then it indicated there were some mental health problems.

RESULT

The results of the study in Table 1 are based on gender. There were more female Co-Assistants who are known to have more mental health problems (30.4%) than male Co-Assistants (14.5%).

Table 1. Percentage of Co-Assistants who Have Mental Health Problems by Gender

Gender	Having Mental Health Problems	Not Having Mental Health Problems	Amount
Male	10 (14.5)	15 (21.8)	25 (17.2)
Female	21 (30.4)	23 (33.3)	44 (63.8)
Total	31 (44.9)	38 (55.1)	69 (100.0)

Source: primary data from the questionnaire

Table 2. Percentage of Co-Assistants Who Have Mental Health Symptoms

Department	Having Mental Health Problems	Not Having Mental Health Problems	Amount
Pediatric	5 (83.3)	1 (16.7)	6
Forensics & Medicolegal	0 (0.0)	4 (100)	4
Dermato-venereology	2 (66.7)	1 (33.3)	3
Ophthalmology	2 (66.7)	1 (33.3)	3
Neurology	0 (0.0)	3 (100.0)	3
Pulmonology	1 (33.3)	2 (66.7)	3
Internal Disease	3 (50.0)	3 (50.0)	6
Psychiatry	0 (0.0)	3 (100.0)	3
Public Health & Community Medicine	16 (55.2)	13 (44.8)	29
Radiology	0 (0.0)	3 (100.0)	3
ENT-HNS	2 (33.3)	4 (66.7)	6
Total	31 (44.9)	38 (55.1)	69 (100.0)

Based on Clinical Registrar Education Station

Source: primary data from the questionnaire; ENT-HMS, ear nose throat and head neck surgery.

Table 2 shows the results of the study regarding mental health, indicating from the 69 Co-Assistants as much as 44.9% experienced mental health disorders, while 55.1% did not experience mental health disorders.

Based on the clinical clerkship station done by the Co-Assistants at the time of the study, it was found that the percentage with mental health problems greater than 50% was the pediatric health department (83.3%), followed by the dermato-venereology department (66.7%), ophthalmology department (66.7%), public health and community medicine department (55.2%), and internal medicine (50%). Meanwhile, the pulmonology department (33.3%), ear nose throat and head neck surgery department (33.3%), forensic and medicolegal department (0%), neurology department (0%), psychiatry department (0%), and radiology department (0%), the results indicated they did not experience many mental health problems while

undergoing education during the COVID-19 pandemic.

Table 3 shows the results of the study based on the type of mental health symptoms of all of the 69 Co-Assistants. Co-Assistants were given the SRQ after undergoing education at their respective stations during the COVID-19 pandemic. A person is said to have mental health problems, if they answered “Yes” to more than 5 (five) questions in the questionnaire.

Based on the type of mental health symptoms, the results of the study were obtained from the results of the completed SRQ survey. There were some co-Assistants who had mental health problems and based on the type of mental health problem, the symptoms of depression (72.5%) were greater in the Co-Assistants, followed by anxiety symptoms (59.4%), cognitive symptoms (58.0%), symptoms of decreased energy (56.5%) and somatic symptoms (31.9%).

Table 3. Percentage of Co-Assistant by Type of Mental Health Symptoms

	Having Mental Health Problems	Not Having Mental Health Problems
Cognitive Symptoms	40 (58.0%)	29 (42.0%)
Anxiety Symptoms	41 (59.4%)	28 (40.6%)
Symptoms of Depression	50 (72.5%)	19 (27.5%)
Somatic Symptoms	47 (68.1%)	22 (31.9%)
Symptoms of Decreased Energy	39 (56.5%)	30 (43.5%)

Source: primary data from the questionnaire

DISCUSSION

Co-Assistants Who Have Mental Health Problems Based on Gender

The results of the study based on gender indicated that among those who experience mental health problems, there are 30.4% female Co-Assistants, compared to 14.5% male Co-Assistants. Based on sociodemographics, one of which is based on gender, the higher female Co-Assistant anxiety levels are associated with increased stress, anxiety, depressive symptoms, and insomnia.

Women are more likely to experience mental health problems at almost twice the rate of being diagnosed with depression as men. According to a Homewood Health United Kingdom study, 47 percent of women are at high risk for mental disorders compared to 36 percent of men. Self-diagnosis has a negative impact on mental health such as experiencing excessive anxiety, fear of things that may not happen, depression and stress. These symptoms interfere with respondents’ ability in carrying out their daily activities.

Co-Assistant Who Has Mental Health Problems Based on the Clerk’s Clinic Education Department

Based on the research findings, it is known that the largest percentage of the mental health problems in Co-Assistants who undergo clinical clerkship are in the child health sciences department, then skin disease department, ophthalmology department, community medicine and public

health department, and internal medicine department. The high percentage at these stations is due to more workloads and due dates to be completed in a short time, with face-to-face activities which take more time during the pandemic. These challenges cause the Co-Assistant’s level of anxiety to increase regarding the transmission of COVID-19.

Meanwhile the department of pulmonary disease, ear nose throat science (ENT), forensic, neuroscience, mental health, and radiology, have the percentage rates of mental health problems that are lower. This difference is because at these stations there are more activities using distance education methods, reducing face-to-face activities and providing tolerance and less workload during the pandemic.

The workload during education in a short time, the inability to complete assignments in a timely manner, various types of exams, sleep disturbances, and a competitive environment are psychological stressors for medical students. The highest number of psychiatric problems in medical students are depression and anxiety disorders¹¹. Working in a location with a high risk of infection so that health protocols that are implemented are more disciplined places these health workers at higher risk of experiencing anxiety and depression¹².

Co-Assistant Has Mental Health Problems Based on Symptoms

From the results of the study, it is known that the Co-Assistants who experience symptoms of depression are the highest percentage of respondents who experience

symptoms of mental health problems followed by somatic symptoms, anxiety symptoms, cognitive symptoms, and symptoms of decreased energy. This pattern is because the level of anxiety, nervousness, tension and fear in respondents is high enough to carry out their clinical clerkships with the offline method (outside the network) in Teaching Hospitals during the COVID-19 pandemic.

Mental health problems in the form of anxiety about personal health, cause changes in sleep patterns, eating patterns, and difficulty concentrating. This pattern further aggravates the mental health of Co-Assistants who have comorbid illnesses¹³.

Little knowledge about COVID-19 leads to depression, which has a negative spiral effect. Anxiety reactions are different for each person, but are accompanied by physiological reactions. There is a complexity of responses involving physiological reactions such as a faster heart rate, abdominal pain, sweating, itching, headaches, and other symptoms. If you feel anxious, then self-defense mechanisms assess the threat and attempt to overcome it¹⁴.

Mental health disorders are initially due to anxiety, which is a response to a threatening situation, as a stimulus to stressors to carry out self-defense¹⁵. Reducing the anxiety level of medical students is done by maintaining quality education and providing support so that they have active energy with coping strategies, and can adapt to a 'new normal' life¹⁶.

These mental health problems require promotive and preventive efforts from a holistic family approach between adolescents, parents, teachers, and family doctors. Family environment and peers have been considered as the most influential factors in supporting healthy behavior¹⁷.

Regular screening of medical students involved in treating, diagnosing patients with COVID-19 should be carried out to evaluate stress, depression, and anxiety using a multidisciplinary psychiatry team¹⁸.

CONCLUSIONS

Women are more prone to mental health problems, and almost twice as high as being diagnosed with depression compared to men. Since there are more clinical clerkship stations that carry out more face-to-face activities during the pandemic, there are increased levels of anxiety for Co-Assistants which would be increases regarding the transmission of COVID-19. Also, the task load is more on a wider level of education and must be completed in a short time causing psychological problems for students especially the symptoms of depression.

SUGGESTIONS

Health promotion and preventive efforts can be done by the family, the doctor in charge and the campus, for mental health screening for Co-Assistants who are carrying out clinical clerkship education. The future researchers should vary the assessment of mental health after the COVID-19 pandemic and use a larger sample population.

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Ethical Approval

This study received approval from The Medical and Health Research Ethics Committee, Faculty of Medicine, Islamic University of North Sumatra with Number: 624/KEPK/FK-UISU/XII/2021.

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Availability of Data and Materials

Data and materials can be accessed directly on the author.

Conflict of Interest

None

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