Health Sciences International Journal (HSIJ)
Vol. 2, No. 2, August 2024, pp. 144 – 153
ISSN: 3026-5037
DOI: https://doi.org/10.71357/hsij.v2i2.40

Health monitoring before and after independent learning during the pandemic

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ARTICLE INFO

Article history:
Received 12 July 2024
Accepted 15 August 2024
Publish 31 August 2024

Keywords:
Health monitoring
Merdeka Belajar-Kampus Merdeka
COVID-19 prevention
Asymptomatic transmission
Humanitarian mission
Antigen testing

ABSTRACT

Background: The COVID-19 pandemic significantly impacted educational practices globally, including Indonesia's Merdeka Belajar-Kampus Merdeka (MBKM) program, which emphasizes real-world learning experiences. Health monitoring became a crucial aspect of student safety during MBKM activities, particularly in community settings. This report examines the health protocols implemented by Universitas Sari Mulia during a humanitarian mission in response to the South Kalimantan floods amidst the pandemic.

Case presentation: Sari Mulia University deployed 327 students to assist in four sub-districts affected by floods. To prevent the spread of COVID-19, pre-deployment health protocols included rapid antigen testing, which identified five asymptomatic positive cases requiring isolation. After completing the two-month MBKM program, students were tested again, revealing seven additional cases, including one with moderate symptoms, while others were either mild or asymptomatic.

Discussion: The university's health monitoring protocols, including pre- and post-deployment testing, isolation, and symptom-based treatments, significantly minimized virus transmission. The importance of early detection and close monitoring of asymptomatic individuals is emphasized, as undetected cases could contribute to community transmission. Additionally, the program highlights the necessity of integrating health education into MBKM activities to ensure students understand preventive health measures.

Conclusion: Universitas Sari Mulia successfully implemented comprehensive health monitoring during its MBKM program, protecting both students and the communities they served. This case underscores the need for ongoing health vigilance, education, and institutional collaboration to safely conduct off-campus learning during the pandemic. These practices serve as a model for future MBKM programs across Indonesia.

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1. Background

The COVID-19 pandemic has drastically reshaped the landscape of education worldwide, forcing educational institutions to adapt to unprecedented challenges. In Indonesia, the Merdeka Belajar-Kampus Merdeka (MBKM) program, introduced by the Ministry of Education and Culture, was designed to grant students greater autonomy and flexibility in their learning experiences by encouraging them to engage with real-world environments. However, the onset of the COVID-19 pandemic created significant health risks, particularly in settings where students interact closely with communities outside their academic institutions. As a result, health monitoring before and after participating in MBKM programs became an essential measure to ensure student safety and minimize the spread of the virus.

In response to the pandemic, universities across Indonesia faced the dual challenge of maintaining educational standards while implementing stringent health protocols. This report specifically examines the health monitoring processes at Universitas Sari Mulia, where the MBKM program was implemented during a humanitarian mission in response to the South Kalimantan floods. The integration of health protocols into this community-based project during the pandemic serves as an exemplary case of how higher education institutions have had to navigate the intersection of education and public health during this global crisis.

The MBKM program is a progressive educational initiative designed to bridge the gap between academic knowledge and real-world experience. It encourages students to participate in off-campus learning activities, including internships, community projects, and humanitarian missions, for up to three semesters (Direktorat Jenderal Pendidikan Tinggi, 2020a, 2020b). However, these off-campus activities introduce new risks in the context of the COVID-19 pandemic, as students are required to interact with various external communities. Close contact during these interactions increases the risk of virus transmission, which necessitates a comprehensive health monitoring strategy.

Health monitoring during the pandemic involved several preventive measures aimed at detecting and managing COVID-19 cases among students. According to the World Health Organization (WHO), COVID-19 is primarily transmitted through respiratory droplets, which means that any close interaction in a community setting could lead to virus spread (WHO, 2021). The Ministry of Health of Indonesia also issued guidelines for COVID-19 prevention and control, which emphasized the importance of regular testing, isolation of confirmed cases, and monitoring of

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health conditions among at-risk groups (Ministry of Health, 2020; WHO, 2023). These guidelines became the foundation for health monitoring efforts within the MBKM program, ensuring that students could participate in community-based activities while adhering to stringent health protocols.

At Universitas Sari Mulia, the implementation of the MBKM program during the South Kalimantan floods provided a unique challenge. The humanitarian mission, which involved 327 students working across four sub-districts, required meticulous planning to ensure that all participants were healthy before, during, and after the program. As part of the health monitoring process, students underwent rapid antigen tests before embarking on their MBKM activities to ensure that they were free from COVID-19. Additionally, students were tested again after completing their mission to prevent any potential transmission of the virus to their families or communities upon their return (Kumar et al., 2021; Lin et al., 2022; UNESCO, 2022).

Health monitoring did not stop at testing. Students who tested positive for COVID-19 were required to undergo a 14-day self-isolation period, in accordance with national guidelines. Monitoring the health of asymptomatic individuals, was also a priority. The university ensured that these individuals were not only tested but also received medical support and mental health resources during their isolation period (Lisiecka et al., 2023; Schwartz et al., 2021; Soria et al., 2021). For students who developed symptoms, further medical care and hospitalization were arranged in collaboration with local health authorities, reflecting the close cooperation between universities and public health agencies during the pandemic (Bernardo et al., 2021; Druedahl et al., 2021).

The MBKM program during the pandemic also highlighted the importance of educating students about public health measures, particularly those from non-health-related disciplines. Many students, especially those in the humanities and social sciences, lacked comprehensive knowledge about pandemic management and preventive health measures. To address this gap, the university integrated health education into the MBKM program, ensuring that all students were well-versed in COVID-19 safety protocols before embarking on their off-campus activities (WHO, 2020, 2021). This approach not only protected the health of the students but also ensured that they could effectively contribute to the communities they were serving without posing a health risk.

Moreover, the MBKM program's health monitoring efforts served as a model for other institutions in Indonesia. The comprehensive testing, isolation, and follow-up procedures

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implemented by Universitas Sari Mulia ensured that students could participate in valuable learning experiences without compromising public health. These efforts underscore the critical role of universities in supporting national public health goals during the pandemic while also fulfilling their educational mission (Daniel et al., 2022; Stachteas et al., 2021).

2. Case presentation

In response to the floods in Hulu Sungai Tengah, South Kalimantan, Sari Mulia University deployed 327 students to conduct MBKM humanitarian projects across four sub-districts: Hantakan, Batu Benawa, Barabai, and South Batang Alay. However, given the ongoing pandemic, the university implemented a health program to ensure the safety of students before, during, and after the MBKM activities. A series of rapid antigen tests were conducted before deployment to prevent the spread of COVID-19 within the student cohort.

Pre-Deployment Health Monitoring

Before the deployment, all 332 students underwent a rapid antigen test. The results showed that five students tested positive for COVID-19. These students were asymptomatic, or Individual Without Symptoms (IWS), and were required to self-isolate for 14 days, following guidelines issued by the WHO and Ministry of Health, Indonesia (Ministry of Health, 2020; WHO, 2023). Monitoring during this isolation period included daily health checks to ensure that no symptoms developed.

Post-MBKM Health Monitoring

After completing the two-month MBKM program, students underwent another round of antigen testing before returning to their respective homes. The post-activity testing revealed that seven students tested positive, with one experiencing moderate symptoms, three with mild symptoms, and the remaining categorized as IWS. The students with symptoms were given appropriate treatment, with those experiencing moderate to severe symptoms being hospitalized for closer monitoring, particularly for those with underlying health conditions such as asthma.

3. Discussion

The implementation of health protocols in education, particularly during the COVID-19 pandemic, represents a critical intersection of public health and academic policy. Sari Mulia University's response to the pandemic during the MBKM humanitarian program provides an insightful case study in balancing educational objectives with public health concerns. The decision

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to deploy 327 students to conduct humanitarian work in flood-affected areas while implementing strict health monitoring protocols highlights the importance of preventive measures in mitigating the risk of virus transmission within academic programs.

Pre-Deployment Health Monitoring

The pre-deployment health monitoring procedures were critical in reducing the risk of virus transmission among students and the communities they served. Rapid antigen testing, used as the primary screening tool, identified five asymptomatic COVID-19-positive students, who were then required to undergo self-isolation. The decision to quarantine these students aligns with global and national guidelines for managing asymptomatic cases (Ministry of Health, 2020; WHO, 2023). The protocol not only safeguarded the health of the students but also reduced the risk of further transmission in the flood-affected communities where the MBKM projects were carried out (Lin et al., 2022; UNESCO, 2022).

Asymptomatic individuals, or those classified as IWS, present a unique challenge in managing the spread of COVID-19. These individuals do not exhibit symptoms but are capable of transmitting the virus, which can exacerbate community transmission if not properly identified and isolated (Li et al., 2020). By conducting antigen tests and isolating the IWS cases, Sari Mulia University effectively minimized the possibility of asymptomatic transmission within the student cohort. This pre-deployment health monitoring measure reflects the importance of early detection in the control of viral outbreaks, particularly in high-risk settings such as community service projects (Daniel et al., 2022; Stachteas et al., 2021).

Additionally, regular health checks during the isolation period ensured that the isolated students were closely monitored for any development of symptoms. Monitoring the health status of students over time aligns with the recommendations of the Indonesian Ministry of Health and international health agencies, which emphasize the importance of continued surveillance even in cases where initial symptoms are absent (Ministry of Health, 2020; WHO, 2023). This approach demonstrates how universities can integrate health monitoring into educational programs, especially during a pandemic, to ensure the well-being of students and the surrounding communities (Lisiecka et al., 2023; Schwartz et al., 2021; Soria et al., 2021).

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Post-MBKM Health Monitoring

Following the completion of the two-month MBKM program, Sari Mulia University implemented a second round of rapid antigen testing, revealing seven positive cases among the student cohort. This post-activity testing served as an essential step in preventing the potential spread of COVID-19 from students back to their home communities. The identification of seven positive cases underscores the importance of continuous health monitoring, even after the completion of field activities. Notably, the case of one student with moderate symptoms highlights the need for close observation of individuals with underlying health conditions, such as asthma, which can exacerbate the severity of COVID-19 symptoms (Bernardo et al., 2021; Druedahl et al., 2021).

In managing the students with COVID-19, Sari Mulia University followed evidence-based treatment protocols that distinguished between those with mild, moderate, and severe symptoms. Students with mild symptoms were treated with appropriate medications and monitored in isolation, while the student with moderate symptoms was hospitalized for closer observation (Kumar et al., 2021; Lin et al., 2022; UNESCO, 2022). This stratified approach to treatment is in line with medical guidelines, which recommend hospitalization for COVID-19 patients with moderate to severe symptoms, particularly those with comorbidities (Guan et al., 2020). For students with asymptomatic or mild cases, self-isolation and home-based care were deemed sufficient, reflecting the growing body of evidence that such measures are effective in managing mild COVID-19 cases (Wang et al., 2020).

The fact that most of the students who tested positive post-MBKM were OTG further underscores the importance of regular testing as part of the health monitoring process. Without the second round of antigen testing, these asymptomatic cases might have gone undetected, potentially leading to further transmission of the virus in the students' home communities. This finding is consistent with research that highlights the significant role of asymptomatic carriers in the spread of COVID-19, particularly in community settings (Oran & Topol, 2020; Sah et al., 2021). By proactively testing all students before allowing them to return home, Sari Mulia University demonstrated a commitment to preventing the virus from spreading beyond the MBKM program’s confines.

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Implications for Future MBKM Programs

The health monitoring protocols implemented in this case provide several important lessons for future MBKM programs, both at Sari Mulia University and across other institutions in Indonesia. First, the importance of early detection through rapid antigen testing cannot be overstated. The use of pre-deployment and post-activity testing significantly reduced the risk of transmission, both within the student cohort and in the broader community (Lisiecka et al., 2023; Schwartz et al., 2021; Soria et al., 2021). Second, the health monitoring framework must include provisions for the isolation and treatment of both symptomatic and asymptomatic cases, with particular attention paid to students with underlying health conditions.

Additionally, the integration of health education into MBKM activities is essential. Students, especially those from non-health-related disciplines, need to be equipped with knowledge about pandemic management, preventive measures, and personal health monitoring. In this case, Sari Mulia University's efforts to educate students about COVID-19 safety protocols ensured that participants were not only aware of their own health status but also understood the broader public health implications of their activities (Kumar et al., 2021; Lin et al., 2022; UNESCO, 2022). This approach aligns with best practices in health education, which advocate for the inclusion of public health content in non-health academic programs during pandemic settings (Lisiecka et al., 2023; Schwartz et al., 2021; Soria et al., 2021).

4. Conclusion

The case of Sari Mulia University's MBKM humanitarian mission during the pandemic demonstrates the critical role that health monitoring plays in educational programs. By conducting pre-deployment and post-activity antigen tests, implementing isolation protocols, and providing medical treatment when necessary, the university successfully minimized the risk of COVID-19 transmission among students and the communities they served. This case provides valuable insights for future MBKM programs and highlights the need for ongoing vigilance, health education, and collaboration between universities and public health authorities to ensure the safety of students during off-campus learning activities.

5. Conflict of interest

All authors declare no conflict of interest.

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ISSN: 3026-5037
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ISSN: 3026-5037 **DOI:** https://doi.org/10.71357/hsij.v2i2.40

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