

## ORIGINAL ARTICLE

# Community Medicine Clerkship Implementation in a COVID-19 Pandemic Era: The Students' Perceptions

Dwi Tyastuti<sup>1,3</sup>, Hiro Putra Faisal<sup>2</sup>, Devy Ariany<sup>3</sup>, Francisca A Tjakradidjaja<sup>3</sup>

<sup>1</sup> Department of Community and Family Medicine, Faculty of Medicine, Universitas Islam Negeri Syarif Hidayatullah, Jakarta, Indonesia

<sup>2</sup> Department of Medical Information Technology, Faculty of Medicine, Universitas Islam Negeri Syarif Hidayatullah, Jakarta, Indonesia

<sup>3</sup> Medical Education Unit, Faculty of Medicine, Universitas Islam Negeri Syarif Hidayatullah, Jakarta, Indonesia

## ABSTRACT

**Introduction:** COVID-19 pandemic has changed the life condition in various sectors. Numerous students in our faculty who should graduate in 2020 must be delayed. This clinical clerkship performed offline in the pandemic era shall be perceived as a crash program to pass the students. This study aimed to evaluate the implementation of a community medicine clerkship (CMC) amidst the pandemic by referring to students' perceptions. **Methods:** This research was a mixed methods study involving 40 students from Universitas Islam Negeri Syarif Hidayatullah, Indonesia. Students were placed in groups in the ten health centers in Tangerang Regency from August to September 2020. The open-ended question via online form was distributed at the beginning of the activity and the fourth week of the clerkship. **Results:** The study revealed that students' concerns increased from week one to week four, but the difference was not statistically significant ( $p > 0.05$ ). The participants identified as the causative factors were insufficient availability of personal protective equipment (PPE), unsynchronized coordination between faculties, preceptors and practice fields, many assignments, and frequent changes in schedule and activities. **Conclusion:** The implementation of CMC was affected by four factors, namely the faculty, the preceptors, the practical field, and the student itself. Asynchrony within the entire factor results in and contributes to students' concern for practice in the field.

**Keywords:** Community medicine clerkship, Community-based education, Students' perception, Assessment module, COVID-19

## Corresponding Author:

Dwi Tyastuti, PhD

Email: dwityastuti@uinjkt.ac.id

Tel: +6221-7404985

## INTRODUCTION

The COVID-19 pandemic has altered living circumstances in a variety of sectors and has spread to more than 200 countries. Multiple strategies have been implemented to halt the spread of such diseases, one of which being the WHO-recommended social distancing (1,2). The government's social distancing policy aimed at controlling the spread of COVID-19 affects a wide range of sectors, including education. Higher education, notably medical faculties, has been impacted by the established social distancing, which effectively eliminates certain activities that can be conducted effectively offline (3–5). Education in the clinical phase should be discontinued, as such policies have resulted in learning delays for medical students working in hospitals or primary health centers (PHC). This delay intensified students' concerns about their future as doctors, an uncertain graduation date, and their acquired professional competence. However, their worry about COVID-19 exposure during

their clerkships seems to be an individual thing (6–8). Medical students do their clerkship training in hospitals and primary health care settings. Currently, the ministry of health has designated all teaching hospitals as referral hospitals for COVID-19. It presents a massive risk when students conduct clerkships there without adequate preparation (9–11). Italy immediately enabled medical students to become pandemic response teams who are responsible for primary care, orphanages, and nursing homes after fighting the COVID-19 pandemic. This is important considering that Italy has predicted that it would encounter a shortage of medical personnel in the near future (12).

The faculty agreed to start offline clinical clerkships during the deployment of social distancing. However, there is considerable disagreement on implementation. As the number of COVID-19 cases decreased, the faculty organized a focus group discussion to identify the type of clerkship that would be conducted during the pandemic and modify the clerkship's administration. The community medicine clerkship (our term IKK Klinik) is expected to be the first to be conducted fully online during the pandemic. The Community Medicine Clerkship (CMC) module constitutes a community-

based medical education (CBME) model, engaging multiple elements during its performance. The elements include community targets (patients, family, society), human resources (students, field preceptors, faculty preceptors, and other stakeholders), practical field (PHC, family, schools, etc.), and health programs (13–15). As a result of the current pandemic situation, any impediments or limitations may develop during the implementation. Faculty team modules modified the prior clinical clerkship module. This adjustment intends to limit students' opportunities to practice in a real work environment, as this internship serves as a component of clinical education and a platform for students to apply any acquired competencies (12,16). Clinical clerkships were thought to make students want to work in primary care and rural areas, which shows how important they are to medical continuity and the Indonesian Medical Council's goal to make graduates who can work in primary care. (17).

Numerous rumours persist within medical education, one of which concerns the term 'scutwork,' which refers to non-clinical duties performed by medical students necessary for those who do not intend to earn a doctor's degree or expertise. When hands-on patient handling activities decrease, the scutwork state will become more prevalent (12,18). Thus, clinical education in this community should be run with learning objectives and a well-defined plan to ensure the safety of any affected individuals. Students may, however, continue to practice in real-world work situations. This clinical clerkship, performed offline in the pandemic era, should be perceived as a crash program to pass the students. As this community clerkship is implemented, the faculty will also gain valuable information regarding the further clinical education model in the pandemic situation. Therefore, this article aimed to measure medical students' concerns and evaluate the implementation of community medicine internships amidst the COVID-19 pandemic by referring to the perceptions of medical students.

## **MATERIALS AND METHODS**

### **Setting**

The students were assigned to groups in each primary health center (PHC) spread over ten subdistricts in the Tangerang Regency area. The PHC was a rural area which is 60 km from DKI Jakarta Province and borders the Java Sea. Tangerang Regency has 43 health centers and serves 2,838,621 people over an area of 959.6 km<sup>2</sup>. The determination of the site and PHC is based on an agreement between the Faculty and the Tangerang District Health Office.

### **Learning Activities**

The CMC was held at the Tangerang Regency for five weeks, from August to September 2020. The CMC during the COVID-19 pandemic was modified from the

preceding CMC module. Learning activities are divided into several parts (Table I). The first week is to provide online family medicine and public health materials. After that, from the second to the fourth week, they will practice in the field accompanied by discussions on the progress of field activities. Lastly, the fifth week for conducting seminars, oral exams, and submission of activity reports.

These activities involved staffs from the Tangerang District Health Office as resource people for debriefing materials, PHC staff as preceptors in the field, and faculty lecturers as online tutors for discussion activities. The preceptors supervised students in several activities, such as conducting physical examinations on patients, visiting patients at home and in rural communities, and other activities in community development.

### **Participants**

This research was a mixed methods study involving 40 students who participated in a community medicine internship at the Faculty of Medicine of the Universitas Islam Negeri Syarif Hidayatullah, Jakarta, Indonesia. Students were placed into 10 groups, and a preceptor oversaw each group.

### **Tools**

We created the ten-question online questionnaire using the "Google Form" tool. As indicated in Table I, we distributed the questionnaire at the beginning of the module. After that, we continue the questionnaire at the end of the fourth week of the clerkship. The qualitative analysis of the respondents revealed two themes: concern and preparation prior to the clerkship, which were elicited during the clerkship's first week; and concern during the clerkship and evaluation of its implementation, which were elicited during the clerkship's final week.

### **Data Analysis**

Quantitative data were analyzed using the SPSS program. This study employed Wilcoxon test to analyze this result because the data was not distribution normal. While thematic analysis was used to analyze the qualitative data, the questions in Table II were included. The first and second researchers examined the respondents' statements attentively, collected and organized them into distinct themes, and then gave coding for these themes. These themes were manually correlated, organized into a single group, and then interpreted.

### **Ethical Considerations**

The Medical Faculty Research Committee, Universitas Islam Negeri Syarif Hidayatullah, has issued the ethical clearance of this study (Protocol No: B-076/F12/KEPK/TL.00/11). Before respondents indicated their willingness to participate in this study, they were informed that the existing data would be used only for research purposes. Additionally, respondents were informed of the research

**Table I: Learning activities of the community medicine clerkship in the context of the COVID-19 pandemic**

Time/Activities	Before Pandemic	During Pandemic
<i>2 weeks before the clerkship</i> Screening of COVID-19 by rapid test	none	facilitated by faculty (40 students are non-reactive)
<i>First week</i> Didactic session	3 days – on campus	5 days – online session
- Topics:	community diagnosis, evaluation health program, family medicine services, community development program	add topic: basic six programs; excellent programs of Tangerang District for Health.
- Lecturer	faculty staffs	faculty staffs and staffs of Tangerang District Health Office
<i>Second - 4<sup>th</sup> week</i> Practice in community		
- Clerkship at University Clinic, supervised by medical staffs	doing services in clinic, home visit, community development program	only conducted home visits to the university clinic patients.
- Clerkship in PHC supervised by a doctor and other professions	<i>21 days in four weeks (126 hours)</i> - conduct services at PHC (bedside teaching, drug and pharmacies services) - home visit - visit to the community health program - actively involved in basic six program - discussion with preceptors from PHC	<i>9 days in 3 weeks (54 hours)</i> Add activities: home visit covid-19 patient with staffs, screening covid-19 Note: some activities in basic six program were postponed
- Tutorial and group discussion with the tutor	each Friday in 3 weeks (24 hours) – on campus, direct tutorial	each Friday in 2 weeks (16 hours) – online session, breakout room
- Specific community education	visit to a boarding school supervised by preceptors	yes.
<i>Fifth week</i> Assessment		
- Seminar / presentation group work	offline seminar	online seminar (breakout room)
- Seminar (students, faculty tutor and PHCs)	offline seminar	online session (breakout room)
- Portfolio examination (one student, one tutor)	offline seminar	online session

**Table II: Question items of the questionnaire**

Question items	Timing	
	First week	Fourth Week
Quantitative question	How students' concern in participating the activities of clinical clerkship is	How students' concern in participating the activities of clinical clerkship is
Qualitative questions	1. What are you more concerned with in the activities of clinical clerkship?	1. What and how do you prepare for these clerkship runs? (Especially during the field activities)
	2. What and how do you prepare as the clerkship shall commence?	2. How is the preparation of the PHC in this clinical community clerkship?
		3. According to you, how is the preparation of faculty to prepare for this community clinical internship related to the condition of pandemic currently
		4. According to you, what should be prepared either by the Faculty or the PHC to support this clerkship in the Public Health Center? (Whether for indoor activities or outdoor activities in this Pandemic situation?)
		5. How is the preparation of the Primary Care Center in this clinical community clerkship?
		6. What activities were done by you at the Public Health Center in regard to this pandemic?

objectives, data collection processes, and confidentiality of their identity.

**RESULTS**

**Quantitative Data**

Forty students confirmed their participation in study activities (34 females and 6 males), but only 39 data were processed because the data was incomplete. For the question "How concerned are students about participation in clinical clerkship activities?" a score ranging from 0 (no concern) to 10 (high concern) was assigned. Table III indicated that the mean concern score for the fourth week was higher than the mean concern score for the first week but these results did not show a non-significant relationship ( $p>0.05$ ).

**Qualitative Data**

**1. What concerns students during the clinical clerkship?**

Students confirmed that their primary concern was being exposed to the infection of COVID-19:

*"Dealing with suspected COVID-19 patients, because they were not given a rapid test in the medical service center."* (Student No. 14, 18)

*Therefore, we were extremely worried about being exposed.* (Almost all students gave this answer)

*'We were worried about being affected by the sarscov2 generated by patients without symptoms, either for ourselves or our family at home.* (Student No. 1, 25, 43)

**Table III: Description students' concern in participating activities of community clinical clerkship**

Variable		N	Mean	Sum of Ranks	Z	Sig
Student concern score when participated in community medicine clerkship during the COVID-19 pandemic	Negative ranks	6	14.50	87.00	-1.875	0.061
	Positive ranks	18	11.83	213.00		
	Ties	15				

Several students expressed concern when they were unable to fulfill the community's responsibilities:

*'... and being concerned that our duties cannot be fulfilled. However, at last, it may be completed on time'* (Student No. 4, 5)

### 2. Students' preparation for clerkship

Since this was the first-time students participated in offline fellowships during a pandemic, the faculty required students participating in clinical fellowships to meet numerous criteria, including negative results of the COVID-19 PCR swab test, no comorbid disease, and parental permission. The students said that they had their parents' permission to participate in these clinical clerkship activities:

*"Parents' approval is the most crucial thing encouraging them to permit us to participate in the community amidst the pandemic."* (Student No. 26, 37)

Additionally, several students confirmed that they purchased level 2 personal protective equipment (PPE) on their own, sought independent information on the transmission, prevention, and treatment of COVID-19 disease, sought information about the area for practices, particularly in relation to the spread of COVID-19 disease, and sought information on temporary residences during the registrar's activities. Dozens of students used a "rapid test" to take a COVID-19 screening test each week and they wrote *"... always using personal protective equipment during the activities"*

Along with preparing for various aspects of the clerkship prior to its start, students also engage in self-prevention and health promotion activities to maintain their health status. It's not just for students' own good that they practice self-prevention. It also helps other people in their workplace or practice setting:

*Students should be noted for including physical activities, sleep management, and high-nutrient foods. ...consuming more fruits and vegetables, as well as a multivitamin, and avoiding cold and fried foods."* (Students No. 4, 5, 22, 24, 25, 26, 27)

*When working in the public health center, hand hygiene and physical distancing should be implemented... consistently wearing a complete PPE when opening a poly service and performing anamnesis, as well as a*

*physical examination of the patients.* " (Students No.3, 6, 7, 12)

*Consistently maintaining personal hygiene by bringing a change of clothes and cleaning ourselves upon the activities' settlement. After packing a lunch, after arriving at the boarding house, immediately taking a bath and washing the clothes..* " (Students No. 18, 36, 43)

### 3. Faculty preparation for clerkship

CMC clerkship amid the present pandemic? Students' perspectives on faculty preparation of community medicine clinical clerkships reveal a contradiction. To begin with, students stated that preparation was adequate, highlighting faculty facilitation of rapid test checks, the provision of PPE, and policy limiting students' direct contact with patients at Puskesmas to minimize the danger of transmission:

*"Well, we owe a great debt of gratitude to the faculty for giving us the opportunity to obtain this stage of community medicine..."*(Student No. 28)

*"Relatively good with strict protocol and discipline." Particularly in the communication between the university and the public health center associated with clinical training activities in the public health center.* " (Student No. 18, 38)

Second, students noted that the faculty's preparedness was still weak regarding communication and coordination between the faculty and the PHC, which occasionally resulted in disagreements and miscommunication in the field between students and preceptors. Additionally, students think that the faculty's supply of PPE was insufficient, when compared to the time for the clerkship in the field, which was not appropriate. Additionally, there were many assignments during the clerkship term, whereas activities were restricted in the field:

*"Regarding PPE with our total entry for 2 weeks, it was perceived relatively. Perhaps, the initial coordination was slightly off with the perception of the students.*

*'In the case of individual or joint duties, they had a different form and no form specification from the beginning; consequently, many of us feel overwhelmed.'*(Student No. 2, 8, 22, 39)

Some students, on the other hand, keep trying to make sense of these flaws by comparing them to the COVID-19 pandemic, which is still going on:

*'As I went offline for the first time, many things should be improved in the future. There are still several definitely interfered deficiencies as a result of this pandemic.'* " (Student No. 39).

### 4. Clerkship preparation by the place of practice

Most students stated that the faculty or health center was responsible for preparing a significant amount of PPE for the students, the need for multiple COVID-19 screening tests while the students were in the field,

and the importance of proper coordination in the implementation of activities between the faculty and PHC to reduce misunderstandings in the community.

*"...PPE should be provided more, .... the number of PPE was limited for students, so we should repurchase them more at our cost".* (Student No. 5, 12, 27, 32, 39)

Concerning field activities, students reported that activities or assignments were perceived to be pretty extensive, particularly in the context of this epidemic. The students highlighted the importance of limiting the number of patients and reducing COVID-19-related activities, such as community-based screening for COVID-19 and patient examinations. However, several students stated the opposite.

*"...But... According to me, being in an offline community for the first time was quite good. The module team responded when we experienced any interference in performing our duties and was able to conduct a discussion with us. The assignments have conformed to this pandemic situation."* (Student No. 11, 16)

The students thought that the preparation of the PHC as a practice site and the involvement of PHC staffs as preceptors in the field were excellent and well prepared. Students reported that the PHC provided rooms and cabinets to store various types of luggage, as well as hygienic rest areas that were not contaminated by the services of the PHC. Additionally, the preceptor and PHC staff constantly remind students to follow health regulations and report any activities to PHC staff. The PHC did not supply PPE to the students. The limitation of PPE in the field was an issue that emerged while in the workplace.

*"The preparation of the public health center was relatively good.... There is a hall, a resting room... Patients' examinations were supervised by preceptors. They consistently recommend activities outside of the Puskesmas, namely, Pusling (mobile Puskesmas), immunization program for elementary school..."* (Student No. 9, 13, 21, 33)

*Its staff explained the type of PPE to be worn... the Puskesmas did not provide any PPE.* (Student No. 14, 24, 35)

Students and preceptors undertook field activities in two categories: those conducted within the PHC facility and those conducted outside of the PHC building. The building's activities include patient examinations under the supervision of a preceptor, counseling for PHC visitors, and screening patients. Outside the facility, activities include health education in Islamic boarding schools, immunization of elementary school children, and services at the post of integrated health services. In addition, the PHC gave many groups of students the chance to do screenings in people's homes.

*"..Conducting service activities at the Medical Center,... in collaboration with Puskesmas officers, conducting*

*external activities such as screening school children for eye disorders, color blindness, and oral health'* (Student No. 5, 14, 24, 35)

*'Conducting COVID-19 counseling in several Islamic boarding schools, in collaboration with Puskesmas staff...Participating in immunization initiatives at primary schools... mobile health center operations."* (Student No. 2, 7, 11)

## DISCUSSION

This article describes the perception of concerns during community service, the readiness of the faculty and the practical field to conduct the clerkship program. This research produced multiple outcomes that are advantageous in the application of clinical clerkship in the community, as well as a variety of data regarding student concerns while practicing in the field. Medical students generally had a more favorable perception of their first offline fellowship after its six-month postponement due to the COVID-19 pandemic. Although only a few students expressed dissatisfaction, many students did. The students interpreted this internship as a response to their fear of being exposed to COVID-19, either personally or through family members. They become more concerned when presented with any significant distinction between the prior and fourth week of activity. Students' concerns increased slightly in this study, supposing that the current field condition was caused by the harshness of COVID-19 (19,20).

Numerous factors contribute to student concerns during the internship, including the availability PPE, communication and coordination with all parties involved, adaptability to changes in schedules and activities in the field, and self-prevention behavior against COVID-19 in the field. The PPE requirement could be a significant element in rising student concern. According to students, the lack of PPE was due to the availability of surgical face masks and medical exam gloves. Additionally, visitors to the public health clinic were not tested for COVID-19 throughout their treatment, despite wearing a mask (and generally, visitors only wore a cloth mask).

To address this problem, the students took proactive measures to prevent transmission, including wearing PPE (and also fulfilling their own PPE needs), performing self-screening COVID-19 tests, renting a residence near the practice field, and participating in various forms of self-prevention. Along with the aforementioned activities, the pupils exercised, brought a meal, and quickly cleaned themselves upon entering the residence. They should be executed consistently while students are engaged in community activities. This conduct demonstrates that students are taking proactive measures to limit the spread of COVID-19 sickness. The study's findings corroborate those of Gohel et al. (2020) and

Kim et al. (2020) on students' grasp of COVID-19 and the disease's transmission pathway (7,21). As Forshaw's (2020) research showed, students were dynamic and responsive to the COVID-19 epidemic, particularly for themselves (19,20,22). Students' disease prevention behavior is a way for them to change their behavior and environment in response to what they think the virus is going to do to them (23,24).

Faculty-led clerkships were also a source of concern for students while working in the field. Students observed an apparent lack of coordination between the practice field, preceptors, and teachers, as well as unusually large tasks. The faculty determined that assigning many assignments was an attempt to expose students to a variety of situations, including patients, the community, and the PHC team, for them to observe, learn, and interact directly. However, this pandemic condition hindered some activities, and fear of infection with COVID-19 was also an impediment to participating in activities. As Sheu et al. (2018) describe, medical education in the twenty-first century places a greater emphasis on providing extensive chances for students to be active in practical fields and contribute to patient care. The learning process is influenced by three factors: the students, the supervisor, and the situation. The implementation of learning is flawed due to the "factor context," in which these factors impede student participation in field practice (25).

Indonesia had previously seen the H1N1 pandemic in 2009, although it did not have the same impact as the current pandemic. This pandemic is a novel experience for everyone, including faculty and those engaging in clinical education during a COVID-19 epidemic. Although it has been six months since the COVID-19 pandemic was declared and social restrictions were implemented in Indonesia, we are still unprepared to implement this clerkship. The scenario and conditions in the field can change rapidly, necessitating slight adjustments by both students and all stakeholders involved in this clerkship. This condition leads to a lack of coordination between faculty, preceptors, and students who learn in the field.

Students were assigned to observe community empowerment programs such as Posyandu or Posbindu. However, PHC staff occasionally alter plans immediately by canceling or substituting different activities. Students had few difficulties following such changes but found it challenging during a pandemic. Students were not always adequately prepared due to concerns about the preparation of PPE and disease transmission. The preceding explanation demonstrated that students must also be prepared to adapt to rapidly changing conditions in the area, and faculty must be prepared to act rapidly to meet essential needs. This is referred to as the "art" of CBME learning, namely the "art" of students being adaptable and positive in the face of challenge,

particularly during a pandemic (4).

From the above situation, it may be concluded that the application of offline community clerkship during this pandemic was affected by four factors: the faculty, preceptors, the practical field, and the student itself. The practical field includes the environment of the practical site and regulations or policies during the pandemic. Asynchrony within the entire 4 factors results in and contributes to students' concern for practice. However, in a pandemic situation in which the situation constantly changes, students should adapt. It was revealed by students who employed diverse strategies to avoid COVID-19 and complete their assignments.

From students' perception, it can be concluded that the unreadiness of faculty in implementing this clerkship, regarding PPE (s) was insufficient, the schedule frequently modified, quite a lot of assignments, and numerous outdoor activities constituted the prominent factors triggering students' concerns in this activity. To overcome this, it is necessary to make several changes in preparation for the implementation and modification of learning methods. Concerning the implementation preparation, it is mandatory to develop a simulation for students to work in the community in pandemic conditions and a simulation of learning techniques for the preceptors. Meanwhile, the learning methods used during clinical education can be carried out in various ways, such as those offered by Khamees et al. (2020), which add to the clinical education model, which he calls a 'traditional rotation' with new alternatives such as webcasting and online forums, calling patients to set up virtual visits, or a screening hotline for patients concerned about exposure (12).

Despite the study's findings, we recognize numerous limitations. To begin with, there is no validated questionnaire for measuring medical student concern. Second, rather than conducting interviews, data collection was conducted through open-ended questions through an online form, limiting the amount of information collected. Third, the data collected from the Syarif Hidayatullah Medical School may not be represent of other Indonesian medical schools. However, we recognize that qualitative research does not seek external validity. However, it provides a good snapshot of the offline clerkship deployment in the community during the COVID-19 epidemic and shows the concerns of students when performing this clerkship, as indicated above. Further study is necessary to ascertain the extent of student concern using a valid and acceptable measuring instrument and to evaluate the community clerkship's implementation. In-depth interviews and focus group discussions can both be held.

## CONCLUSION

In Germany, 74.9% of the population obtained at least Our study presents a snapshot of a student's

worries during clinical community clerkship amidst the COVID-19 pandemic and several causative factors according to student perceptions. The worry that arose in students during the clinical community clerkship increased significantly from the first week to the last week of the clerkship. Participants described factors that can be identified as the causes, such as insufficient availability of PPE (surgical face masks and medical gloves), unsynchronized coordination between faculties, preceptors, and practice fields, many assignments, and frequent changes in schedule and activities. This study showed that the implementation of community clerkship was affected by four factors: the faculty, the preceptors, the practical field, and the student itself. Asynchrony within the entire factor results in and contributes to students' concern for practice in the field. The upcoming clinical clerkship must think about these things and make prepare simulations for students and field preceptors to accomplish the clerkship can be done in the middle of a pandemic.

### ACKNOWLEDGEMENTS

The wide range of stakeholders involved in CMC module. We thank Desiriana Dinardianti (Head of Health Tangerang District Office), Dwi Harti Nugraheni (staf of Health Tangerang District Office), and Hari Hendarto (Dean of Medical Faculty, Universitas Islam Negeri Syarif Hidayatullah) who have given permission for activities and provided facilities for practicing in the field. We also would like to thank the head of the PHC and all staffs (Puskesmas Pakuhaji, Kedaung Barat, Sukawali, Pasirangka, Tigaraksa, Cisoka, Sukamulya, Jayanti, Salembaran Jaya, and Pasar Kemis) who have provided guidance and monitoring of students who were conducting clerkship during the pandemic.

### REFERENCES

1. Matrajt L, Leung Ti. Evaluating the effectiveness of social distancing interventions to delay or flatten the epidemic curve of Coronavirus disease. *Emerg Infect Dis.* 2020;26(8):1740–8.
2. Thu TPB, Ngoc PNH, Hai NM, Tuan LA. Effect of the social distancing measures on the spread of COVID-19 in 10 highly infected countries. *Sci Total Environ.* 2020 Nov 10;742:140430.
3. Dhillo J, Salimi A, ElHawary H. Impact of COVID-19 on Canadian Medical Education: Pre-clerkship and Clerkship Students Affected Differently. *J Med Educ Curric Dev.* 2020;7:1–5.
4. Hauer KE, Lockspeiser TM, Chen HC. The COVID-19 Pandemic as an Imperative to Advance Medical Student Assessment: 3 Areas for change. Vol. Publish Ah, Academic Medicine. 2020. p. 1–4.
5. Potaliya P, Ghatak S. New Trends in Medical Education During and Post COVID-19 Pandemic. *Eur J Med Heal Sci.* 2020;2(3):1–4.
6. Choi B, Jegatheeswaran L, Minocha A, Alhilani M, Nakhoul M, Mutengesa E. The impact of the COVID-19 pandemic on final year medical students in the United Kingdom: A national survey. *BMC Med Educ.* 2020 Jun 29;20(1):206.
7. Kim SM, Park SG, Jee YK, Song IH. Perception and attitudes of medical students on clinical clerkship in the era of the Coronavirus disease 2019 pandemic. *Med Educ Online.* 2020;25(1):1–8.
8. Ferrel M, Cureus JR, 2020 U. The impact of COVID-19 on medical education. *Cureus.* 2020;12(3):1–4.
9. Zheng C, Hafezi-Bakhtiari N, Cooper V, Davidson H, Habibi M, Riley P, et al. Characteristics and transmission dynamics of COVID-19 in healthcare workers at a London teaching hospital. *J Hosp Infect.* 2020;106:324–9.
10. Rickman HM, Rampling T, Shaw K, Martinez-Garcia G, Hail L, Coen P, et al. Nosocomial transmission of COVID-19: a retrospective study of 66 hospital-acquired cases in a London teaching hospital. *Clin Infect Dis.* 2020;1–4.
11. Colaneri M, Sacchi P, Zuccaro V, Biscarini S, Et.al. Clinical characteristics of coronavirus disease (COVID-19) early findings from a teaching hospital in Pavia, North Italy, 21 to 28 February 2020. *Eurosurveillance.* 2020;25(16):1–6.
12. Khamees D, Brown CA, Arribas M, Murphey AC, Haas MRC, House JB. In Crisis: Medical Students in the COVID-19 Pandemic. Coates W, editor. *AEM Educ Train.* 2020 Jul 25;4(3):284–90.
13. Iglar K, Whitehead C, Takahashi SG. Competency-based education in family medicine. *Med Teach.* 2013;35(2):115–9.
14. Walsh A, Koppula S, Antao V, Bethune C, Cameron S, Cavett T, et al. Preparing teachers for competency-based medical education: Fundamental teaching activities. *Med Teach.* 2018;40(1):80–5.
15. Welch M, Plaxton-Moore S. Faculty development for advancing community engagement in higher education: Current trends and future directions. *J High Educ Outreach Engagem.* 2017;21(2):131–66.
16. Ohta R, Ryu Y, Sano C. The uncertainty of covid-19 inducing social fear and pressure on the continuity of rural, community-based medical education: A thematic analysis. *Healthc.* 2021 Feb 1;9(2):1–10.
17. Indonesia Medical Council. Standar Kompetensi Dokter Indonesia (Indonesian Medical Doctor Competency Standards). Jakarta: Konsil Kedokteran Indonesia; 2012.
18. Bell-Masterson S, Swamy L, Worsham C. Opinion: Let's Talk About Residents' Hours—And Their 'Scut'Work Too. MA: CommonHealth. Boston; 2016.
19. Forshaw MJ, Blinkhorn V, Galvin L. Feelings towards physical and behavioural adaptations during the COVID-19 pandemic. *Heal Psychol Updat.* 2020;(July).

20. Joffe H. Risk: From perception to social representation. *Br J Soc Psychol.* 2018 Mar;42(1):55–73.
21. Gohel KH, Patel PB, Shah PM, Patel JR, Pandit N. Knowledge and perception about COVID-19 among the medical and allied health science students in India: An online cross sectional survey. *Clin Epidemiol Glob Heal.* 2020;(January):6.
22. Moya C, Cruz P, Kline MA, Smaldino PE. Dynamics of Behavior Change in the COVID World. 2020;1–13.
23. Champion VL, Skinner CS. Health behavior and the health belief model. In: *Health education: Theory, research, and practice.* 5th ed. San Fransisco: Jossey-Bass; 2008. p. 45-65.
24. Elgzar WT, Al-qahtani AM, Elfeki NK, Ibrahim HA. COVID-19 Outbreak : Effect of an educational intervention based on health belief model on nursing students' awareness and health beliefs at Najran University, Kingdom of Saudi Arabia. *Afr J Reprod Health.* 2020;2020(June):78–86.
25. Sheu L, Burke C, Masters D, O'Sullivan PS. Understanding clerkship student roles in the context of 21st-century healthcare systems and curricular reform. *Teach Learn Med.* 2018;30(4):367–76.