



HOSPITAL PREPAREDNESS IN FACE OF THE COVID-19 PANDEMIC : A CASE STUDY FROM PERMATA MEDIKA SEMARANG HOSPITAL INDONESIA

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ABSTRACT

World Health Organization declared COVID-19 as a pandemic in 12th March 2020. Hospital as the referral health facility of covid-19 have to stay ready to serve COVID-19 patients so the hospital preparedness in facing the covid-19 pandemic must be evaluated. This article is a case study of Permata Medika Semarang Hospital. Since the beginning of the pandemic this hospital has carried out various activities to

anticipate the pandemic. The activities are establishing COVID-19 Task Force, setting services procedures for COVID-19 and non COVID-19 patients, preparing isolation room of COVID-19 patients, formulating clinical practice guidelines and COVID-19 clinical pathway, setting zoning of personal protective equipment, prevent transmission of virus from the patients and the employees, coordination to settlement of claim of COVID-19 payment by Ministry of Health, evaluating the stocks of medicines and means/equipment for COVID-19 patients and receiving donation from government, private sector, and community. The pandemic is still ongoing so hospital preparedness has yet to be maintained. This requires monitoring, evaluation, coordination, communication and cooperation within internal hospitals and with other stakeholders.

Keywords : COVID-19 pandemic, hospital readiness, non natural disaster.

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Introduction

It's been more than a year since COVID-19 pandemic has hit the world, including Indonesia, and has had a huge impact on health, social and economy. COVID-19 is identified as a disease which is caused by *Severe Acute Respiratory Syndrome Coronavirus-2* (SARS-CoV-2) ¹ The disease was initially discovered in Wuhan, China in Desember 2019. The main source of transmission of SARS-CoV-2 is from human to human. The transmission happens from both symptomatic and asymptomatic patients by means of droplets released when they speak, cough, and sneeze. ² On 30 January 2020 World Health Organization (WHO) had declared Covid-19 as Public Health Emergency of International Concern (PHEIC). On 11 March 2020, WHO had declared COVID-19 as a pandemic. The number of COVID-19 cases rapidly increased and it had spread in many countries. ³ The Case Fatality Rate (CFR) of COVID-19 is relatively low, it was . Based on data analysis toward the number of patients and the number of deaths and it was < 5% or about 4.6. However, the figure is very progressive since the number of victims keeps on increasing each day. ⁴

In 4 February 2020 the Ministry of Health (MOH) of the Republic of Indonesia announced the Declaration of Novel 2019-nCov as Disease That Can Cause Plague and Its Response Measures by Decision of MOH No: HK.01.07/MENKES/104/2020. ⁵ On 28 February BNPB (National Disaster Management Agency) enacted the Declaration of Special Emergency Situation of COVID-19 Epidemic Disaster in Indonesia by Decision of Head of BNPB 9A/2020. ⁶ On March 2, President of Indonesia reported the first confirmed two cases of COVID-19 infection in Indonesia. In March 13, President Joko Widodo formed a Task Force for Rapid Response to COVID-19 by Presidential Decree (Keppres) 9/2020 concerning the designation of Non-Natural Disaster Corona Virus Disease 2019 (COVID-19) as National Disasater. ⁷ One of the most important one is the Presidential Direction No. 4/2020 specifically instructing for refocusing of development activities, reallocation of government budget, and procurement of goods and services for rapid and accelerated response to COVID-19. ⁸

Since the first cases were discovered on two citizens in Depok City, COVID-19 cases keep on increasing. As of April 2, the country has reached 1.790 confirmed cases, 113 new cases, with 170 deaths, and 112 recoveries. On 30 November 2020 the number of new cases increased by 4,617 and it made a total of 538,883 cases. The recovered patients increased by 4,725 that made a total of 450,518 cases. The number of deaths increased become 16,945 and Case Fatality Rate of COVID-19 in Indonesia is about 4.7%. ⁹

From May to July 2020 the City of Semarang was the city with the highest number of COVID-19 cases in Central Java Province. In order to countermeasure COVID-19 pandemic, the Government of Semarang City conducted actions to prevent the transmission by stipulating restriction on public activities policy. Based on data of COVID-19 positive cases in Semarang city there were 108 cases on 1 May 2020 become 702 cases on 30 July, but the number of recovered patients were also increasing from 251 persons on 24 May 2020 to 2,802 persons



on 30 July 2020. The number of COVID-19 patients who died had increased from 110 persons on 21 June to 440 persons on 30 July 2020.¹⁰ COVID-19 Pandemic also takes the life of numerous health/ medical personnel who died in the line of duty. During March to the end of December 2020 there were 504 health and medical personnel in Indonesia who died from COVID-19. The number of health personnel's deaths from COVID-19 in Indonesia is recorded as the highest among Asian countries.¹¹

A hospital is a health facility needed in the midst of disaster that serves as a health care service provider, the main source of management, evacuation, and treatment for disaster victims.¹² Therefore, a hospital should have an excellent disaster countermeasures preparedness management. The purpose of hospital preparedness management in facing the pandemic is to ensure the hospital is well prepared at any time to effectively and efficiently participate in responding to emergency condition and to remain functioning for their business continuity.¹³

Permata Medika Semarang Hospital (PMS Hospital) is a type C private-owned hospital that has been appointed by the government to become the third line COVID-19 referral hospital in Semarang, Indonesia. It is stipulated on 4 May 2020 by Mayor's Decree No. 443/440 year 2020 concerning the Amendment to Semarang Mayor's Decree No. 443/324 year 2020 concerning the Stipulation of The Third Line Referral Hospital for Counter Measuring Certain Emerging Infectious Disease in the City of Semarang.¹⁴ COVID-19 Task Force of Semarang City was established for facilitating communication and coordination among the cross-line hospitals. This study aims to evaluate the preparedness of hospitals in facing COVID-19 pandemic by compiling a case study at PMS Hospital.

Objectives

Analyze the preparedness of PMS Hospital to anticipate COVID-19 pandemic. 2). Discovering solutions for the most priority problems faced by PMS Hospital management due to COVID-19 pandemic.

Method :

This study was a case study at PMS Hospital with qualitative approach. The data was collected in June and July 2020 by conducting in-depth interviews with the Director, COVID-19 Task Force as well as limited observation by filling out observation check-list. The data was collected by direct interviews and continued by interviews via Zoom meetings and phone calls. The data were analyzed by using content analysis by doing in-depth data reduction analysis, classifying, directing as well as systematically organizing the data.¹⁵



Results :

4.1. General Description of PMS Hospital :

PMS Hospital is located in the city of Semarang, Central Java Province, Indonesia. It started its operational activities in 2007 under the ownership of PT. Permata Panca Utama. The hospital is a type C private-owned hospital with 154 beds that consist of 15 beds of VIP class, 44 beds of 1st class, 42 beds of 2nd class dan 32 beds of 3rd class. The hospital provides general and medical specialty practices. The number and types of human resources and facilities/means are beyond type C hospital standards. Supporting facilities such as laboratory, radiology, pharmacy, CSSD (*Central Sterile Supply Department*) and others are in accordance with the hospital standards.

4.2. COVID-19 Cases in PMS Hospital :

In March 2020 PMS Hospital had started to provide outpatient care to 24 patients with COVID-19, all of them were with a status of “persons under control” and increase to 56 persons in April and up to 57 persons in May and up to 61 persons and decrease until 40 persons. In March 6 persons with a status “patients under control” and they were increase 25 persons in April and decrease to 10 patients but increase up to 26 persons in May and increase about two times until 51 persons. In June 6 persons were confirmed as positive COVID-19 and increase until 9 persons in July.

Based on the Appeal of Directorate General of Healthcare Service of the Ministry of Health No. YR.03.03/III/III8/2020 enacted on 9 April 2020, since the end of March 2020 PMS Hospital applied the restriction on the number of outpatient and inpatient services. The number of visit and bed occupancy rate decreased until 50% and surgery was allowed only for emergency surgery.

The increasing number of COVID-19 cases affected Bed Occupancy Rate (BOR) of Puntadewa Isolation Room increased from 81.71% in May to 92.67% in June and continued to 181.94% in July. Since BOR of Puntadewa ward exceeded 100% there was no additional bed in Puntadewa ward. Patients who were non COVID-19 were hospitalized in Arimbi ward. The exceeding 100% BOR showed that the ward capacity was no longer sufficient to accommodate patients.

4.3. Preparedness of PMS Hospital to anticipate Covid-19 pandemic:

Since the government declared COVID-19 pandemic as national disaster PMS Hospital subsequently prepared series of strategic steps as follow the MOH regulations:^{16 17 18 19 20}

a. Establishing COVID-19 Task Force of PMS Hospital :

The Director established COVID-19 Task Force of PMS Hospital on 1st April 2020 in accordance with Director’s Stipulation Letter No. 029/SK/IV/2020²¹ to handle various emerging problems related to COVID-19. The team was lead by Head of Medical Unit with the team members were Head of Nursing Unit, medical specialists, general practitioners, nurses, midwives, pharmacists, public relation-marketing officers,



administration officers, finance officers and Infection Prevention and Control Committee (IPCC). All of the elements had their own respective duties and they collaborated with the functions within hospital's organizational structure.

- b. Setting services procedures for COVID-19 and non COVID-19 patients ²²
 Setting services procedure for COVID-19 patients was conducted by discussion between Board of Directors and COVID-19 Task Force and IPCC. The procedures were formulated based on WHO and MOH recommendation and professional organization. Every patient entering PMS Hospital either from Emergency Unit or Polyclinic should undergo COVID-9 screening first. The screening was conducted by interview filling out COVID-19 epidemiology screening form conducted prior to doctor's examination. Every patient who should be hospitalized had to completed blood test and thorax x-ray to detect the suspect toward COVID-19. Rapid test was performed only for COVID-19 suspect. COVID-19 medical check-up for general patients depended on doctor consultation and rapid test. PMS Hospital does not yet perform Polymerase Chain Reaction (PCR) swab test for general outpatient. Swab test was performed for suspected patients and the result was reffered to another hospital laboratories. The COVID-19 screening was consisted of doctor consultation, thorax X-ray, complete blood test and COVID-19 rapid test. At that moment, PMS Hospital had six COVID-19 isolation beds and one Intensive Care Isolation bed with ventilator. To anticipate increasing COVID-19 support test PMS Hospital provided *Polymerase Chain Reaction* (PCR) swab test for inpatients and COVID-19 rapid test for inpatient as well as outpatient.
- c. Management of care for COVID-19 inpatient:
 Inpatient care was divided into incoming patients and outcoming patients with strictly regulated procedures. The incoming patient went to isolation room was via one gate with special elevator to Puntadewa ward in 2nd floor of the main building. The outcoming path was different from the incoming one. The patients were taken by emergency room nurses who wearing level 3 PPE. Patient handover and medical record was brought by nurses who were wearing level 2 PPE. The door of isolation room was locked afterward. The path where the suspected patient went through should be disinfected as it was regulated by IPCC. The room used to be occupied by patients should be disinfected afterward. ²³
- d. Setting PPE Zoning:
 PPE zoning was catgorized into green zone with level 1 PPE, yellow zone for level 2 PPE, and red zone for level 3 PPE. PPE have to be worn by the personnel while inside COVID-19 isolation room to prevent COVID-19 transmission from patients to health personnels. The PPE consisted of level 2 and level 3 PPE. Level 2 PPE was required to be worn while personnel were in nurse-station and level 3 PPE was required to be worn while personnel were in patient's care room. The zoning was set in collaboration with COVID-19 Task Force based on the risk of exposure and WHO standards.
- e. Preparing isolation room of Covid-19 patients:



Hospital providing 6 isolation beds for COVID-19 patients and 1 intensive care isolation bed, meanwhile there were 7 intensive care bed and 2 isolation bed for non COVID-19 patients. One isolation room was designed for 2 patients with all equipment, nearby is donning/doffing room beside nurse station. All of rooms contruction was finished in May. ICU isolation room was added into 3 rooms, equipped with exhaust fan, hepafilter and centralized oxygen. ICU isolation rooms was not undergone any adjustment and still in the same condition as before the pandemic. For COVID-19 isolation room in Puntadewa ward the hospital open 3 rooms, 6 beds, exhaust fan, fan, and hepafilter. The construction and renovation of the isolation room cost a relatively large amount of money.

- f. **Formulating Clinical Practice Guidelines and COVID-19 Clinical Pathway :**
The medicines used to treat Covid-19 were Azithromycin, Chloroquine, Oseltamivir, dan Vitamin. The medicines were written in clinical pathway. Understanding of Covid-19 continues to develop along with clinical and epidemiological findings about Covid-19 so that the diagnosis and treatment related to Covid-19 has changed. Realizing this, the PMS Medical Committee in collaboration with the internist and IPCC is actively making changes to the Covid-19 Clinical Practice Guide and Clinical Pathway in accordance with the MOH guidance.
- g. **Making efforts to prevent transmission in waiting room :**
Preventing transmission in waiting room was conducted by making restriction on the number of patients' visits for respective doctor, optimally use of online registration application, only one person family accompanied both for inpatient and outpatient, screening for patients and those accompanied before entering hospital area, the requirement to wear a mask, wash hands, giving marks on chairs and always keep physical distance in the hospital. The hospital also conducted information concerning the prevention of COVID-19 transmission and related hospital services information. The banners, posters, and leaflets were installment in hospital area such as lobby, outpatient unit, inpatient ward and emergency unit.
- h. **Making effort to prevent transmission among the employees of the hospital:**
From sixteen recommendations of WHO there are three recommendations related to medical staff in health services in facing COVID-19 : 1).Train, repurpose and mobilize the health workforce according to priority services. 2). Protect the physical health of health workers from transmission of COVID-19 and 3).Anticipate and address the mental health needs of the health workforce.²⁴
The IPCC periodically attempted to deliver understanding on various matter related to Covid-19 by organizing seminar for the hospital staff, like how to put on and put off PPE, the dischargement of medical waste, hand washing, cough ethics, corpse handling and organized compliance evaluation toward the implementation of Standard Operating Procedures (SOP). The PMS Hospital also gave attention to protect the well beingness of health personnel including providing vitamins and supplementary nutrition like snacks and milk regularly. The hospital also performed periodical COVID-19 screening



for health personnel who handle COVID-19 patients. The screening consisted of complete blood check and thorax x ray. Rapid and swab test for health personnel was conducted for personnel who had COVID-19 symptoms or health personnel who had contact with patient suspected COVID-19.

i. Strive for smooth reimburse of COVID-19 claims to MOH:

Based on the Regulation of MOH No. 59/2016 about Fee Waiver of Patients with Certain Emerging Infectious Disease the payment for COVID-19 patients will be covered by Ministry of Finance through MOH²⁵ not BPJS Kesehatan or other private insurance company. BPJS Kesehatan or Health Social Security Agency plays a role as verifier of COVID-19 reimbursement. The PMS Hospital have to learned the details of the rules, meticulously preparing all the documents for the completeness of the claim administration, speeding up the claim submission process so that it can be immediately paid by MOH. The cost components that are waived are administration of service, service and care in emergency unit, isolation room, intensive unit room, and doctor service, supporting diagnostic examination according to medical indications, medicines, health equipment, consumable medical supplies, referral, and corpse handling. The procedure of reimbursement for COVID-19 patient care was regulated in MOH Decree No. HK.01/07/MENKES/446/2020²⁶ and this decree is the revision of the previous Decree No. HK.01/07/MENKES/238/2020. The MOH decree also mentions in detail the role and function of MOH, BPJS Kesehatan, Provincial/ Regency/City Health Office and hospitals. The management of COVID-19 claim in PMS Hospital was performed by Casemix Team. The complete and verified data were subsequently submitted to E-claim INA-CBG (Indonesia Case Based Group) application. The Director would then signed the Statement Letter of Absolute Responsibility, patients data recapitulation and Work Order for Reimbursement Claim for Service Charge. The Director subsequently proposed the data of patients' reimbursement to the Directorate General of Healthcare Service MOH. A copy of the data was sent to BPJS Kesehatan to be verified and to Provincial/ Regency/City Health Office Health Office by e-mail. Casemix Team experienced several obstacles in submitting COVID-19 claims because of some incompleteness like administration requirement which was patients' data, medical resume made by the doctor in charge, PCR swab test document which was referred to laboratory in other hospital and supporting diagnostic test performed by doctor especially for suspected out-patient patients. Therefore it need mutual collaboration among the hospital's Casemix Team and other units related to claims settlement. Another obstacle was the relatively long range of time between the document submission and the realization of reimbursement by MOH. The other obstacle was still high claim dispute in which the document was sent back to hospital to be revised and then re-submitted again. The long process would affect the cash flow of the hospital and it influence the operational of hospital, in particular the income from non COVID-19 patients was drastically decreasing until 50% both outpatient and inpatient.



- j. Regulating Referral Procedure at PMS Hospital both for patients with mild, moderate, and severe symptoms. Patients would be sent home for self isolation under the supervision provided by the Government of Semarang City. Chronic Non COVID-19 patients with relatively good condition could directly take their medicines in Pharmacy Unit without seeing medical specialist. Patients were also suggested to use online registration application before visiting the hospital. For COVID-19 cases with severe symptoms or breath failure that needed intensive care room the hospital would be referred to second or first line hospital that had more complete emergency facilities.
- k. Evaluating the stocks management of medicines and means/equipment for COVID-19 patients:

From sixteen recommendations of WHO there are three recommendations related to facilities and equipment in health services facilities: 1). Review supply chains and stocks of essential medicines and health technologies and 2). Mobilize financial support and ease logistical and operational barriers ²⁴

The stocks management of medicines was medicines needs calculation, purchasing, receiving and distributing which are managed by Pharmacy Unit. The medicine needs was calculated by the frequency of utilization, estimated duration of patient care and estimated number of patients. The availability of the medicines was relatively easy to get since the beginning of the pandemic. It was different from the availability of PPE that had difficulty to buy especially in March and April. The PPE needs calculation was conducted based on the estimation of PPE utilization in accordance to zoning or the risk level of COVID-19 exposure, the number of personnel who wore PPE, the estimated number of patients, and the number of PPE that could be re-used. The needs for hygiene means /equipments such as soap and wash basin with running water, hand sanitizer and disinfectant ingredients also rapidly increased. This hygiene means/equipments stocks management both needs calculation, purchasing, and the utilization was managed by the General Unit collaboration with IPCC. At the beginning of the pandemic hand sanitizer was relatively difficult to get due to scarcity and the price was also raising high. To overcome it IPCC suggested to make hand sanitizer on their own based on the guidelines from Food and Drugs Administration (BPOM). COVID-19 rapid test and viral transport medium (VTM) are several supporting diagnostic tools for Covid-19 case. In March and April that tools were relatively difficult to get, however in May the tools were getting easily to get both self-purchasing and collaboration with medical equipment distributor or through donation from Semarang City Health Office and Central Java Province Health Office. The needs calculation of rapid test and VTM was done by Laboratory Unit and then it was proposed to Pharmacy Unit. The recording and reporting utilization of rapid test and VTM both from donation and self-purchasing was performed by Pharmacy Unit.

- l. Receiving non cash donation from government, private sector and community:
In the beginning of pandemic the availability of PPE was relatively difficult to get due to the scarcity of production and sale. The hospital made efforts to fulfill the need for



PPE by opening donation, collaborating with several health equipment distributors, collaborating with Indonesian Doctor Association and Semarang City Health Office, purchasing sterilization equipment for N-95 masks so that the masks could be used maximum 5 times, and making hazmat suits by themselves that can be re-used. The recording of donated PPE and medicines or self-purchased PPE should be thoroughly and separated. It was related to claims of COVID-19 patients' medical cost to MOH.

4.4. Finding solution of problems faced by the management of PMS Hospital as the result of COVID-19 pandemic.

Based on the situation and condition of various efforts and preparation of PMS Hospital to anticipate COVID-19 pandemic various solutions were identified as follow:

- a. Performance evaluation of COVID-19 Task Force : 1). Improving the active role of the Director of PMS Hospital in coordination and communication with the Government of Semarang City, Semarang City Health Office, hospitals in Line 1, 2, and 3 and laboratorium network related to COVID-19 patients services, 2). The Head of COVID-19 Task Force focused on response operation, hospital's preparedness improvement and the readiness for COVID-19 risk management, therefore it is better to be discharged from his/her functional duty and receiving allowance, 3). Suggesting the existence of a room or physical area for emergency operation of COVID-19 Task Force and organizing simulation of various situations of COVID-19 pandemic, 4). Evaluating the performance of the heads of the Hospital area, 5). Formulating strategic management in anticipating the unknown end of COVID-19 pandemic
- b. Patients Management: 1). Evaluating the service procedures of COVID-19 patients, both incoming patients with screening as well as outcoming patients, implementation of patients' triage SOP, evaluating patients who are referred to other hospitals, inpatient COVID-19, health service in isolation room and Intensive Care Unit. 2). Evaluating the area zoning and PPE zoning in the hospital. 3). Preparing telemedicine services.
- c. Surveillance and Management of Information : 1). Conducting PMS Hospital Integrated Information System. The team was made to perform one-stop service so that was not only in charge to periodically collect data, validate data but also to inform the data. 2). Evaluating the performance of the Hospital's Public Relation and Marketing Team to get more active in collaborating with various media partners. 3). Performing risk update in accordance with the latest situation and evidenc- based and organizing periodic briefing by COVID-19 Task Force. 4). Socialization of various guidelines and documents related to COVID-19 and input them into hospital's information system to be easilly accessed by all employees. 5). Socialization of information related to personal protection and security steps and working safety which are strategically posted on various places at the PMS Hospital.
- d. Human Resource departement: 1). Maximizing the performance of Human Resource Department (HRD) by conducting simulation of human resources needs especially medical reserve staff and support them if there is a case surge. 2). Managing temporary medical license for medical personnel which are deployed in COVID-19 service, 3). Organizing



- periodic in house training in accordance with the latest situation and policies related to COVID-19. 4). Evaluating the procedure of working safety of all PMS Hospital employees 5). Organizing periodic evaluation about hospital's staff who are related to COVID-19 cases
- e. Financial administration and business continuity: 1). Suggesting the existence of financial administration and management regulation related to COVID-19 health service and performing monitoring periodically. 2). Evaluate the problem that caused the delay in payment of the claim of COVID-19 patients and also reviewing claim dispute and finding the solution, n 3). Optimizing the performance of Casemix Team in managing claims of cases related to COVID-19. 4). Giving data and consideration to the Board of Directors about the hospital financial management due to the decreasing number of non COVID-19 patients' visits
 - f. The Continuity of essential support services: 1). Performing stock opname of various means/equipment related COVID-19 regularly and recount of buffer stock to reserve resource optimally and periodically, 2). Evaluating BOR of Puntadewa ward and the expansion plan if there is a cases surge. 3). Evaluating the availability and utilization of PPE in every unit, 4). Suggesting renovation for isolation room with negative pressure in accordance with infection prevention and control standards, adding some hepafilters, monitors, CCTV and intercom.
 - g. Infection prevention and control by IPCC : 1). Formulating various SOP related to COVID-19 infection prevention, control and services to patient both Covid-19 and non COVID-19 2). Collaborating with COVID-19 Task Force to follow-up the result of monitoring and evaluation conducted by IPCC, 3). Making SOP for tracing the hospital staff who are confirmed with COVID-19, 4). Monitoring and evaluating protocols about mobilization of COVID-19 patients including in isolation room, 5). Monitoring and Evaluating the compliance of hospital's staff using PPE and health protocols, 6). Evaluating the activities of cleaning and sterilization in various area of the hospitals including developing protocols both biological and clinical waste management.

Conclusion :

PMS Hospital has been carried out various activities to anticipate the COVID_19 pandemic in accordance with government regulations and implementation guidelines. The activities are establishing COVID-19 Task Force, setting services procedures for COVID-19 and non COVID-19 patients, preparing isolation room of COVID-19 patients, formulating clinical practice guidelines and COVID-19 clinical pathway, setting zoning of personal protective equipment, prevent transmission of virus from the patients and the employees, coordination to settlement of claim of COVID-19 payment by MOH, evaluating the stocks of medicines and means/equipment for COVID-19 patients and receiving donation from government, private sector, and community. Because the pandemic is still ongoing PMS Hospital is expected to continue these efforts by making improvements accordingly finding solution of problems.



REFERENCES:

1. World Health Organization. (2020). *Naming the Coronavirus Disease (Covid-19) and the Virus that Cause it*. Retrieved May 2020, from [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it)).
2. Han, Y., & Yang, H. (2020, March 6). The Transmission and Diagnosis of 2019 Novel Coronavirus Infection Disease (Covid-19): A Chinese Perspective. *J Med Virol*(DOI: 10.1002/jmv.25749).
3. World Health Organization. Coronavirus disease 2019 (COVID-19) Situation Report – 70 [Internet]. WHO; 2020 [updated 2020 March 30; cited 2020 March 31]. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200330-sitrep-70-covid-19.pdf?sfvrsn=7e0fe3f8_2.
4. Wu Z, McGoogan JM. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72314 Cases From the Chinese Center for Disease Control and Prevention. *JAMA*. 2020; published online February 24. DOI: 10.1001/jama.2020.2648.
5. Keputusan Menteri Kesehatan Republik Indonesia No. HK.01.07/MENKES/104/2020 tentang Penetapan Infeksi Novel Coronavirus (Infeksi 2019-nCoV) sebagai Penyakit yang dapat menimbulkan Wabah dan Upay penangulangannya.
6. Keputusan Kepala Badan Nasional Penanggulangan Bencana Nomor A Tahun 2020 Tentang Penetapan Status Keadaan Tertentu Darurat Bencana Wabah Penyakit Akibat Virus Corona Di Indonesia
7. Keppres) 9/2020 tentang Penetapan Bencana Non Alam Penyebaran Corona Virus Disease 2019 (Covid-19) Sebagai Bencana Nasional.
8. Keputusan Presiden Republik Indonesia No.9 tahun 2020 tentang Refocussing Kegiatan, Realokasi Anggaran, Serta Pengadaan Barang dan Jasa Dalam Rangka Percepatan Penanganan Corona Virus Disease 2019 (Covid-19)
9. <https://covid19.go.id/p/berita/analisis-data-covid-19-indonesia-update-per-30-November-2020>
10. <https://siagacorona.semarangkota.go.id/halaman/covid19>
11. <https://www.kompas.com/sains/read/2021/01/04/193000323/kematian-tenaga-medis-indonesia-akibat-covid-19-tertinggi-di-asia-kenapa-?page=all>
12. Pusponegoro, A. (2018). *Kegawatdaruratan Bencana, Solusi, dan Petunjuk Teknis Penanggulangan Medik & Kesehatan* (Vol. Pertama). Jakarta: PT Rayyana Komunikasindo.
13. Kamaluddin, R., Trisnantoro, L. & Alim, S. (2019). Validity and Reliability of the Disaster Preparedness Knowledge Instrument for Health Cadres in Volcanic Disaster. *Bali Medical Journal*, VIII(3).



14. Surat Keputusan Walikota Semarang Nomor 443/440 tahun 2020 tentang Perubahan Atas Keputusan Walikota Semarang nomor 443/324 Tahun 2020 tentang Penetapan Rumah Sakit Penanggulangan Penyakit Infeksi Emerging Tertentu Lini Ketiga di Kota Semarang.
15. Moleong L. Metode Penelitian Kualitatif. UI Press; 2010.
16. Keputusan Menteri kesehatan Republik Indonesia Nomor HK.01.07/MENKES/413/2020 tentang Pedoman Pencegahan dan penanggulangan Corona Virus Disease 2019 (COVID-19)
17. Surat Edaran Dirjen P2P Nomor: HK.02.02/II/753/2020 Tentang Revisi ke-3 Pedoman Kesiapsiagaan Menghadapi Infeksi Novel Corona Virus (COVID-19)
18. Kementerian Kesehatan Republik Indonesia, Pedoman Pencegahan dan Pengendalian Coronavirus Disease (COVID-19)- Rev 4
19. Keputusan Menteri Kesehatan Republik Indonesia Nomor KH.01.07/MENKES/169/2020 tentang Penetapan Rumah Sakit Rujukan Penanggulangan Penyakit Infeksi Emerging Tertentu
20. Surat Edaran Nomor HK.02.01/MENKES/202/2020 tentang Protokol Isolasi Diri Sendiri dalam Penanganan Coronavirus Disease (COVID-19)
21. Surat keputusan Direktur Rumah Sakit Permata Medika Semarang No. No. 029/SK/IV/2020 tanggal 1 April 2020 tentang Penetapan Tim Satuan Tugas Covid-19 di Rumah Sakit Permata Medika Semarang.
22. Rumah Sakit Permata Medika Semarang. (2020). *Buku Pedoman Pelayanan Covid-19 RS Permata Medika Semarang*. Semarang.
23. Direksi RS Permata Medika Semarang. (2020). Surat Keputusan Direktur RS Permata Medika No. 43/SK/VII/2020 tentang Penetapan Jumlah Tempat Tidur RS Permata Medika Semarang. Semarang.
24. World Health Organization, Strengthen The Health System Response to Covid-19. Recommendations for the WHO European Region (1 April 2020), Policy Brief.
25. Peraturan Menteri Kesehatan Republik Indonesia MOH No. 59 Tahun 2016 tentang Pembebasan Biaya Untuk Pasien Penyakit Menular Tertentu.
26. Keputusan Menteri Kesehatan Republik Indonesia Nomor No. HK.01.07/MENKES/446/2020 juncto Keputusan Menteri Kesehatan Republik Indonesia Hk.01.07/Menkes/238/2020 Tentang Petunjuk Teknis Klaim Penggantian Biaya Perawatan Pasien Penyakit Infeksi Emerging Tertentu Bagi Rumah Sakit Yang Menyelenggarakan Pelayanan Coronavirus Disease 2019; 2020.