READINESS OF HUMAN RESOURCE, LOGISTICS, AND FINANCE IN HANDLING PANDEMIC COVID-19 AT BHAKTI WIRA TAMTAMA TNI HOSPITAL, SEMARANG

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ABSTRACT

Background: Covid-19 is a highly infectious disease. In response to the estimated potential impact of COVID-19, standardized hospital preparedness and readiness measures are essential to contain nosocomial outbreaks and operate hospitals safely. This study aimed to investigate the human resource, logistics, and finance readiness in handling pandemic Covid-19 at Bhakti Wira Tamtama TNI hospital, Semarang.

Subjects and Method: A qualitative study with a phenomenological approach was conducted at Wira Tamtama TNI AD hospital, Semarang, Central Java, from April to May 2020. A total of 3 informants was selected by purposive sampling. The data were collected by in-depth interview, document review, and WHO Hospital Readiness questionnaire. The data were analyzed by classification, compilation, and tabulation compared to the WHO Hospital Readiness checklist.

Results: Based on the WHO Hospital Readiness checklist, Bhakti Wira Tamtama TNI AD hospital had sufficient human resources readiness for a capacity of 160 patients. But it showed limited readiness in logistics and financial resources in handling the Covid-19 pandemic.

Conclusion: Bhakti Wira Tamtama TNI AD hospital had sufficient human resource readiness but limited logistics and financial resources in handling the Covid-19 pandemic.

Keywords: COVID-19, hospital readiness, World Health Organization (WHO)


BACKGROUND

The hospital is an important component of the health system that provides complete individual health services with inpatient, outpatient, and emergency services as regulated in Law Number 36 of 2009 concerning Health and Law Number 44 of 2009 concerning Hospitals. According to Law Number 44 of 2009, the hospital is a public service business unit. This type of organization is capital, technology, and labor-intensive. Its management is limited to social affairs and socio-economic units that have social responsibility but in managing their finances and applying economic principles. This requires the hospital to be responsible for its performance in both service and financial aspects based on standard work standards and continuous quality improvement.

According to the World Health Organization (WHO) (2020), the Coronavirus is a large family of viruses that cause illness ranging from mild to severe symptoms. This type of coronavirus is known to cause diseases with severe symptoms such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The virus that causes Coronavirus Disease 2019 (COVID-19) is called Sars-CoV-2. The coronavirus is a virus that is transmitted...
between animals and humans, such as SARS which is transmitted from civet cat to humans and MERS from camels to humans. Common symptoms of patients infected with COVID-19 are acute respiratory problems such as fever, cough, and shortness of breath.

There are also infected persons without symptoms. The average incubation period is 6-14 days. Severe cases of COVID-19 can cause pneumonia, acute respiratory syndrome, kidney failure, and even death. In most cases, clinical signs and symptoms were fever, with some cases having difficulty breathing, and X-rays showed large pneumonia infiltrate in both lungs.

The WHO China Country Office reported pneumonia in Wuhan City, Hubei Province, China, on December 31, 2019. China identified a new type of pneumonia with the name coronavirus disease, which is shortened to COVID-19. On January 7, 2020, WHO designated COVID 19 as a Public Health Emergency of International Concern (PHEIC). On January 30, 2020. The increase in the number of COVID-19 cases continued to grow and is taking place so fast that it has spread to hundreds of countries globally.


Data from the Ministry of Health (2020) on March 25, 2020, WHO reported a total of 414,179 confirmed cases with 18,440 case fatality of 4.4% (CFR) in 192 countries/territories, and as of April 22, 2020, a total of 2,639,243 confirmed cases were reported with 183,820 deaths. Case Fatality Rate 7% in 193 countries. Many health workers and medical personnel have reportedly been infected.

On April 22, 2020, Indonesia reported an increase of 283 confirmed COVID-19 cases, bringing the total number of confirmed COVID-19 cases in Indonesia to 7775 cases from 24 provinces, namely: Bali, Banten, DIY, DKI Jakarta, Jambi, West Java, Central Java, Java East, West Kalimantan, East Kalimantan, Central Kalimantan, South Kalimantan, Kep. Riau, West Nusa Tenggara, South Sumatra, North Sumatra, North Sulawesi, Southeast Sulawesi, South Sulawesi, Lampung, Riau, North Maluku, Maluku and Papua. The regions with the highest local transmission in Indonesia were DKI Jakarta and Banten.

According to Achmad Yurianto (2020), in the context of preparedness to face COVID-19 infection, the Central Government and the Health Office carry out Human Resources (HR), Finance, Logistics, and Infrastructure. For financing as stipulated in the Ministry of Health Regulation Number 59 of 2016 concerning Exemption from Patients with Certain Emerging Infectious Diseases and the Minister of Health Decree Number: HK.01.07 / MENKES / 104/2020 concerning Determination of Novel Coronavirus Infection (2019-nCoV) As Diseases That Can Cause Outbreaks and Efforts to Overcome. Tri Yunis (2020) argued that Indonesia is ready to handle coronavirus cases. If the number of patients continues to increase, there is a possibility that the hospital will experience a shortage of equipment for health workers, such as logistics.

Currently, the Ministry of Health has issued various guidelines to tackle the spread of COVID-19. The Ministry of Health has also designated more than 100 hospitals as COVID-19 Reference Hospitals. According to Putu Eka (2020), learning from Taiwan's success in tackling the virus's spread, all components of the health system and stake-
holders related must be activated and managed in a managed system. Leadership at the national and regional levels is needed.

The hospital being part of the system plays a very important role in reducing mortality and transmission. For this reason, the readiness of hospitals, especially Referral Hospitals, needs to be focused on providing capacity intensive and critical care along with all related resources, namely Human Resources, Finance, Logistics, and Infrastructure.

Based on data from the Ministry of Health, there were 2,889 hospital units throughout Indonesia in April 2020. The total available beds reached 317,442 units or 1.2 units per 1,000 population. Based on data from the Organization for Economic Cooperation and Development (OECD) in April 2020, the ratio of beds to 1,000 populations in eight provinces in Indonesia did not meet WHO standards.

In order based on the percentage were NTB (0.71), NTT (0.81), West Java (0.85), Banten (0.87), Lampung (0.91), West Sulawesi (0.91), Kalimantan Tengah (0.91), Riau (0.98). This means that no one has access to hospital beds out of every 1,000 inhabitants in the province. Meanwhile, the highest ratio of beds in hospitals was in DKI Jakarta (2.33), North Sulawesi (2.10), and East Kalimantan (1.84).

According to the study Journal Critical Care Medicine in January 2020, Indonesia only had 1,190 Intensive Care Units (ICU) rooms with 7,094 beds. Compared with the population, Indonesia’s ratio of critical care beds was only 2.7 per 100,000 population. The Ministry of Health acknowledged that existing health services’ capacity is still insufficient to accommodate the growing number of Covid-19 patients. The number of referral hospitals had been increased from 100 to 132 hospitals.

The room capacity has also increased from only 950 to 1,925 rooms. According to Bambang Wibowo (2020), General Director of Health Services of the Ministry of Health, if there is a surge in patients in Indonesia, there will be a lack of capacity for existing health services and health workers, a lack of personal protective equipment (PPE) for health workers and a shortage of medical devices such as ventilator aids for Covid patients.

Data from the Ministry of Health and the Task Force for the Acceleration of Handling Covid-19 showed that the number of hospital ventilators in Indonesia currently is only 8,413 units. Very far from the total demand, which reached 29,876 units. As for health workers. Indonesia needs an additional 1,500 doctors and 2,500 nurses in the face of a pandemic. In 2018, there were a total of 93,628 doctors in Indonesia. Of that number, 56,084 are general practitioners and 37,544 specialists. If the total population of Indonesia is 265 million, then the ratio is 0.4 per 1,000 population. It showed only four doctors were serving 10 thousand residents.

Lack of Hospital Preparedness in Indonesia, both from the availability of Human Resources, Finance, Logistics and in the form of Facilities Infrastructure as well as knowledge of different health workers about the COVID-19 protocol can pose risks and become obstacles to patient safety, medical personnel, non-medical personnel, and all Indonesian people. It requires a minimum readiness analysis of Human Resources, Logistics, and Finance provided by the Hospital Bhakti Wira Tamtama TNI AD Semarang as one of the Covid 19 referral hospitals, which the researcher tries to answer.
SUBJECTS AND METHOD

1. Study Design
A qualitative study with a phenomenological approach was conducted at Wira Tamtama TNI AD hospital, Semarang, Central Java, from April to May 2020.

2. Population and Sample
A total of 3 informants, who were medical personnel, worked at the Hospital of the Bhakti Wira Tamtama Indonesian Army in Semarang. A formal figure who became an informant in this study was the President Director of the Hospital Bhakti Wira Tamtama TNI AD Semarang. Meanwhile, the informal figures who became informants were two employees at the hospital who served as doctors and nurses handling Covid 19 patients.

3. Study Instrument
Data were collected using an interview guide that included the informant’s identity and a list of interview questions that adjust to the conditions and the work situation to be studied and based on the WHO’s guidelines. The tools that researchers use in the interview process were laptops and cell phones.

4. Data Collection
Primary data collection was conducted: (1) In-depth interviews by asking the informant’s willingness to be interviewed according to the existing topic; (2) Structural and informal interview researcher informs informant for a return interview if additional information is needed. Secondary data collection was conducted using: (1) Questionnaires to obtain information; (2) Literature studies to analyze data or information that researchers receive from informants, along with government regulations related to research; and (3) Reviewed documents where the researcher collects the documents and data needed and examined in depth so that they could support and increase confidence and proof of an event.

5. Data Analysis
The process of determining the number of human resources, logistical, and financial needs required by the Hospital TNI AD Bhakti Wira Tamtama for handling the COVID 19 outbreak was analyzed and reported descriptively.

The researcher conducted the validity and reliability test of the research results with the triangulation method, namely checking the validity of the data using something other than the data for checking purposes or comparing the data, and the most triangulation technique by checking through other sources.

RESULTS
Readiness Standard Operating Procedure
Bakti Wira hospital had been serving patients Tantama Covid-19 from March 19, 2020, although not the referral hospital prevention of emerging infectious diseases in Central Java. Covid-19 patient services at the Tk. III Bhakti Wira Tantama, after a direct order from Kakesdam IV/ Diponegoro, recalled the beginning of the pandemic, Kariadi Hospital and Wongsonegoro Hospital's capacity in Semarang was limited. At the same time, other referral hospitals in Central Java were not ready to accept Covid-19 patients. One block of the ward is used as a special ward for Covid-19 treatment with 13 beds with natural ventilation and 2 negative pressure beds.

The Covid-19 service system at Tk. III Bhakti Wira Tantama was equipped with supporting SOPs to provide firm service to patients in the Covid-19 service area and the Non-Covid-19 service area. A screening system is implemented in the emergency room and polyclinic for patients and visitors since they entered the hospital environment.
to prevent mistaken services from entering the Non-Covid-19 area.

Covid-19 patient service readiness at Tk. III Bhakti Wira Tantama is very helpful for PDP Covid-19, which is not accommodated in Kariadi Hospital and 1st line referral hospital in the Central Java region. Patients from outside Semarang who were treated at the Tk. III Bhakti Wira Tantama covering areas of Blora, Purwodadi, Kudus, Batang, and Pemalang.

![Covid Zone Map](image)

**Figure 1. Covid Zone**

**DENAH KAMAR PASIEN R. FLAMBOYAN**

**LANTAI 1**

7 Kamar
12 Bed

- Kamar 1: 1 Bed
- Kamar 2: 2 Bed
- Kamar 3: 2 Bed
- Kamar 4: 2 Bed
- Kamar 5: 2 Bed
- Kamar 6: 2 Bed
- Kamar VIP: 1 Bed

**LANTAI 2**

7 Kamar
14 Bed

- Kamar 1: 2 Bed
- Kamar 2: 2 Bed
- Kamar 3: 2 Bed
- Kamar 4: 2 Bed
- Kamar 5: 2 Bed
- Kamar 6: 2 Bed
- Kamar 7: 2 Bed

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Services for Covid-19 patients at Hospital Tk. III Bhakti Wira Tantama was equipped with special ICU facilities in isolation rooms, additional VIP isolation rooms, 16 beds, construction of a garden accompanied by a safety fence, installation of internet facilities, and by the body. This development was carried out because the demands of the needs of Covid-19 patients were increasing and to reduce the saturation of patients who were waiting for the results of the PCR examination for a relatively long time.

Covid-19 patient services at the Hospital Tk. III Bhakti Wira Tantama, who had been treated since March 19, 2020, until now, there were 150 with details of March 9, April 15, May 8, and June 53. Patients with confirm Covid-19 29, PDP 81, ODP 40, and Died 11. Patients with TNI soldiers 51, PNS Kemhan 4, Family TNI / PNS Kemhan, and society were 95, while based on payment consists of BPJS 148 and general 2.

From January until now, RST Bhakti Wira Tantama is currently under Lieutenant Colonel (Ckm) dr. Moh Andi Fatkhurokhman, Sp. ENT-KL has taken steps so that when appointed as a Covid referral hospital. All available resources are maximally made to serve the needs of people experiencing Covid-19. The head of the hospital's direction is gradually opened to the Covid IGD with two beds. Covid hospitalizations were 15 beds on March 19, 2020. Because the need for Covid inpatient rooms increased, there were 29 beds in May with details of 2 ICU beds and 27 isolation treatment beds. Meanwhile, the non-covid room's capacity decreased because some nurses, doctors, and non-health workers were transferred to the Covid emergency room and the Covid inpatient room.

To prioritize the quality and safety of Covid-19 patient services at the Bhakti Wira Tantama Hospital, a policy was issued by the Head of the Bhakti Wira Tantama Hospital with Kep / 69 / IV / 2020 Number concerning the evaluation and monitoring of the 2019 Corona Virus Disease pandemic disaster management activities (Covid-19) at Bhakti Wira Tantama Hospital. PMKP and PPI's role is very important in evaluating and monitoring patient services and supporting activities for handling Covid-19.
The Readiness of Human Resources
Tk. III Bhakti Wira Tantama must carry out strict efficiency considering that the number of non-PNS employees was 60%. In contrast, the number of non-covid patients had decreased when it was declared a Covid-19 referral hospital and reduced non-Covid rooms’ capacity by around 30%.

Logistics Readiness, Facilities, and Infrastructure
Some of the crucial needs at the beginning of the implementation of Covid-19 were to cover all clothes, masks, hand sanitizers, VTM, Dacron, and PPI facilities, which came from assistance and procurement themselves. Meanwhile and other supporting facilities for Covid-19 services were through self-procurement. The revision of the 2020 RKA was proposed, so that budget implementation did not experience obstacles and required a long time through a long series.

The process of procuring goods and services in handling the emergency pandemic of the Covid-19 infection requires fast and precise handling to support the needs of patient care. Procurement of goods and services by direct appointment followed by the procurement administration process was found. This was based on the Circular Letter of the Policy Institute for Procurement of Goods/Services (LKPP) No. 3 of 2020 about the Company on the procurement of goods and services in the handling of Covid-19.

Readiness Facilities and infrastructure in Ambulance, Laboratory, Radiology, Pharmacy, Quarantine Room Medical equipment, medicines, vitamins, food, and others are sufficient and ready.

PDP services with cohort isolation from the level of awareness of ordinary services to requiring ICU are ready. But R. Specific negative pressure isolation is not available specifically for Covid patients. In principle, RS BWT had negative pressure isolation room facilities and hemodialysis. But HD facilities in special isolation rooms for Covid Patients do not yet exist. They still joined HD regularly.

Infrastructure requirements change R. Cohort isolation into a negative pressure system required a budget to make negative pressure installation, and the machine was around Rp. 500 million. Another ward's development to become R. Isolation adding to the existing capacity to 32 TT, required a budget of around Rp. 300 million. The need for drugs, medic gas, medical devices, thermogun, ventilator, and other equipment needed for maintenance.

The infrastructure needed to change the cohort's isolation room into a negative pressure system that required a budget to make negative pressure installation, and the engine was around Rp. 500 million. Fulfilling hospital logistics needs from incidental donations could not be used as a measure in hospital logistics management.

DISCUSSION

The Readiness of Human Resources
Efforts to improve the morale of health workers who treat Covid-19 patients have been carried out by being issued at the hospital head's policy initiative by providing special incentives, providing nutritious food and vitamins. Through a Decree of the Minister of Health, the government had provided special incentives to health workers who have handled Covid-19 patients directly since March. The Ministry of Health had verified the application for this incentive, but the budget had not been supported. It was hoped that it would increase the morale of health workers.

Several hospital head policies related to budgets dealing with the Covid-19 pandemic included: Hospital Head Policy Kep / 100 / V
/ 2020 regarding providing incentives to hospital patients directly contacted and managing Covid-19 patients. Decree of the Head of the Hospital Number Kep / 54 / III / 2020 concerning Providing incentives for the Covid Rapid Action Team in dealing with Covid-19 at Rumkit Tk. II Bhakti Wira Tamtama were: DPJP doctor = Rp. 400,000 / person; Flamboyant Room Nur = Rp. 200,000 / person; Posko = Rp. 200,000 / person; Supervisory Officer = Rp. 100,000 / person; Spray Officer = Rp. 50,000 / person; Yamed staff = Rp. 50,000 / person; Radiology = Rp. 100,000. person; Laboratory = Rp. 100,000 / person; The corpse officer = Rp. 50,000 / person; Ambulance driver = Rp. 50,000 / person; Decree of the Minister of Health Number HK.-01.07/MENKES/ 278/2020 concerning the Providing of Incentives and Death Compensation for Health Workers who deal with Covid-19 in Indonesia.

**Logistics Readiness, Facilities, and Infrastructure**

The government made the rules regarding the budget, among others in Presidential Instruction RI No.4, 2020 concerning Refocussing Activities, Budget Reallocation, and Procurement of Goods and Services in the Context of Accelerating the Handling of Corona Virus Disease 2019 (Covid-19) Minister of Health Decree no HK.01.07/ MENKES/ 215/2020 concerning Utilization of DAK in the Health Sector for Handling Covid-19 Mortuary.

**Financial Readiness**

Minister of Health Regulation Number 59 of 2016 stated in article 1 that certain emerging diseases included: Poliomyelitis, Ebola virus, MERS, Influenza A (H5N1)/ bird flu, Hantavirus disease, Nipah virus disease, Yellow, Lassa fever, Congo fever, Meningococcal Meningitis, and emerging infectious disease.

The government of Indonesia had issued a document of the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/ Menkes/ 238 of 2020 concerning Technical Guidelines for Reimbursement of Care Costs for Certain Emerging Infectious Diseases Patients for Hospitals Organizing Services for Corona Virus Disease 2019.


According to KMK RI number HK.-01.07 / Menkes / 238/2020, the implementation of Covid-19 service claims is as follows: Patient: People Under Monitoring (≥60 years with or without diseases), <60 years with comorbidities; Patients Under Supervision (Complementary Confirmation of Covid-19); Service Points: Outpatient, Inpatient, Referral hospitals for certain emerging infectious diseases and other hospitals that provide Covid-19 services.

Regulation of the minister of defense policy is that the TNI AD Hospital's financial administration uses the BLU and PNBP systems under the Decree of the Minister of Defense of the Republic of Indonesia, number 20 of 2018 financial management of non-

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tax State revenue. It came from general public services in hospitals within the Ministry of Defense and the Army.


**Analysis**

Hospital Tk. III Bhakti Wira Tantama used funds from BPJS in serving Covid-19 patient. The general patient paid through the PNBP mechanism. The refocusing policy was carried out, prioritizing the interests of handling Covid-19 to reduce facility development and investment allocation. The scarcity of goods needed to handle Covid-19 and expensive increases in prices affect the availability of the annual work plan budget that has been compiled.

Meanwhile, the revenue used by operations at the beginning of Covid-19 treatment was patient service income in November, December 2019, January, and February 2020, which had not been affected by the impact of the decline in patients Covid-19 pandemic disaster. Due to the decrease in hospital patient visits, the declining income condition was very pronounced in the budget management for May, June, etc. BPJS patients at Tk. III Bhakti Wira Tantama was not yet N-1 in the service claim system, so that BPJS funds went down after 3-4 months later.

The hospital finance department tried maximally to complete the files. From the March 2020 bill, the files received by BPJS Kesehatan as verifiers were 80% and dispute 20%. Meanwhile, the payment provided by the Ministry of Health was 50%. Bills for April, May, and June 2020 had been submitted for claim files but not yet decreased the budget. The cause of the dispute was due to incomplete files in filling out the medical resume, absence of a National Identity Number, lack of a completed Epidemiological Investigation form, and filling in the Covid-19 data application had not been optimal.

**Hospital Preparedness**

From the results of this study, it was found that the Human Resource Preparedness of BWT Hospital was currently sufficient for a maximum capacity of 160 covid patients. For the isolation room, the capacity can accommodate 32 patients. As for the Logistics and Financial Readiness of BWT Hospital, it was only until June 2020.

Hospital Tk. III Bhakti Wira Tantama had handled Covid-19 patients since the beginning of the pandemic, supported by the organizational structure, facilities, SOP, and budget system.

Covid-19 Financing at Hospital Tk. III Bhakti Wira Tantama came from BPJS patients' claims for the previous 3-4 months of service and general patients with PNBP financial systems.

Hospital Tk. III Bhakti Wira Tantama had followed up government policies regarding refocusing, procurement of goods and services during the Covid-19 pandemic disaster, claims of Covid-19 patients, and incentives for health workers.

Hospital budgets require accuracy, efficiency in determining priority needs in the face of scarcity and expensive goods, and covid-19 handling services. It was reducing dispute files by completing covid-19 patient files into billing requirements.
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