

ORIGINAL RESEARCH

INTENSIVE CARE

The comfort level of the physicians involved in the management of intensive therapy at the COVID-19 referral hospitals

Andriamuri Primaputra Lubis, MD ¹, S. Ningrum Ika Pratiwi Putri, MD ²

Author affiliations:

1. Department of Anesthesiology and Intensive Care, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia.
2. Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia.

Correspondence: Andriamuri Primaputra Lubis, Jalan Flamboyan ½ No.7B, Medan, North Sumatera, Indonesia; Phone: +628126078194; E-mail: andriamuri@usu.ac.id

Abstract

Background & Objective: Novel Coronavirus-2019, the cause of COVID-19, was first discovered at the end of 2019 in Wuhan City. Analysis of confirmed cases in China states that 7%-26% of patients with severe disease required intensive care. The high number of cases of COVID-19 forced the 'North Sumatra Indonesian Society of Anesthesiology & Intensive Therapy (NSISAIT) COVID-19 Task Force' to manage and monitor appropriate intensive therapy at selected referral hospitals.

We conducted this study to know the comfort level of the NSISAIT COVID-19 Task Force during the management of intensive therapy at the COVID-19 referral hospitals.

Methodology: This study used a descriptive observational method with a cross sectional design. A questionnaire was designed and circulated by electronic means among the physicians involved in management of COVID-19 patients as a part of NSISAIT COVID-19 Task Force. The responses received were grouped and categorized using MS Excel software.

Results: The results of the study showed that the comfort level of the NSISAIT COVID-19 Task Force was categorized as satisfactory by almost half of the respondents. The COVID-19 handling was categorized as very good by 34 (65.4%) respondents; 25 (48.1%) felt a fairly good level of security, 21 (40.4%) answered that the facilities and infrastructure at the referral hospitals were quite good, 28 (53.8%) respondents received a very good award; and 27 respondents (51.9%) carried out intensive therapy management quite well.

Conclusion: The comfort level of the NSISAIT COVID-19 Task Force in the management of intensive therapy at the COVID-19 referral hospitals was in the comfortable category.

Abbreviations: NSISAIT - North Sumatra Indonesian Society of Anesthesiology & Intensive Therapy; HCW - healthcare workers; PPE - personal protective equipment;

Key words: COVID-19; Intensive therapy; Comfort level

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1. Introduction

Novel Coronavirus 2019 was first discovered in Wuhan City, Hubei province, PR China, at the end of 2019.

Rapidly increasing number of confirmed cases of Coronavirus Disease 2019 (COVID-19), compelled the World Health Organization (WHO) to declare it as a global pandemic.¹

In February 2020, China's National Health Commission reported that about 7-26% of severe patients required admission to the ICU and about 1000 patients required non-invasive or invasive ventilation support.² The pandemic created a highly critical situation, requiring urgent enhancement of the hospital capacity, especially the ICU facilities.³

The heavy load of COVID-19 critically ill patients produced many challenges in the management of intensive therapy and infection prevention. These included the need to provide loads of personal protective equipment (PPE), single-use materials, specific drugs that may be in short supply and specialized equipment, e.g., non-invasive or invasive ventilators. Need to intubation risked transmitting the virus to healthcare workers (HCW).⁴

Indonesia ranked 17th in the world with a total of 2,228,938 confirmed cases, with 59,534 deaths; the figures being the highest in the Southeast Asia.⁵ North Sumatra had the highest number of confirmed cases (31,823) out of these.⁶

In March 2020, the Governor of North Sumatra established 5 hospitals as COVID-19 referral hospitals including dr. GL Tobing Hospital with a total of 49 rooms with 2 ICU beds, and Martha Friska Multatuli Hospital with a total of 110 rooms with 12 ICU beds.⁷ In addition, 22 medical institutions were assigned to support the Task Force for accelerated handling of COVID-19 patients including the 'North Sumatra Indonesian Society of Anesthesiology & Intensive Therapy (NSISAIT). Therefore, the provincial government of North Sumatra requested assistance in the assignment of an anesthesiologist and intensive therapy specialist at two newly established referral hospitals.⁸

The NSISAIT COVID-19 Task Force played an important role in the management of intensive therapy at the COVID-19 referral hospitals.

Comfort is a condition when basic needs are met so that a feeling of satisfaction is created. Efforts to create good satisfaction (security, completeness of facilities and infrastructure, as well as appreciation) for the NSISAIT COVID-19 Task Force in the management of intensive therapy are very important to achieve a better quality of life for the patients.

We conducted this study to know and document the comfort level of the NSISAIT COVID-19 Task Force in the management of intensive therapy at the COVID-19 referral hospitals.

2. Methodology

This observational descriptive, cross sectional research acquired information about the satisfaction level of the NSISAIT COVID-19 Task Force in the management of

intensive therapy at the COVID-19 Referral Hospitals. This study collected primary data with a questionnaire-based measuring instrument, that had been tested for validity and reliability, and distributed by the NSISAIT secretariat to the target respondents. The study was carried out in September 2021, and involved 52 COVID-19 staff, who were members of the NSISAIT COVID-19 Task Force on duty from April 2020 to August 2021 in two referral hospitals. Incomplete questionnaires were excluded.

The data were processed by using SPSS software, with the data obtained in the form of the respondent's satisfaction level. The research data was processed by univariate analysis which is presented in the form of tables and narratives.

3. Results

Based on the results of primary data collected out of respondents through a specially designed questionnaires, the demographic characteristics of the respondents are presented in Table 1.

Table 1: Respondents' characteristics

Variable	N (%)
Gender	
Male	36 (69.2)
Female	16 (30.8)
Place of Work	
Dr. GL Tobing Deli Serdang Hospital	17 (32.7)
Marta Friska Multatuli Hospital	35 (67.3)
Total	52 (100)

Out of a total of 52 respondents, 36 (69.2%) were males and 6 (30.8%) were females. Regarding the place of duty, 17 (32.7%) respondents served in the ICU of dr. GL Tobing Deli Serdang Hospital, and 35 (67.3%) served in the Marta Friska Multatuli Hospital.

As many as 34 (65.4%) respondents had a very good rating of handling, 18 (34.6%) respondents had a pretty good rating of handling COVID-19 (Table 2).

Table 2: Overall comfort levels in intensive therapy units

Comfort Level	N (%)
Very comfortable	2 (3.8)
Comfortable	24 (46.2)
Quite Comfortable	18 (34.6)
Less comfortable	8 (15.4)
Total	52 (100)

Table 3: Comfort level of the respondents. Data presented as n (%)

Factor	Very good	Pretty good	Not good
Handling	34 (65.4)	18 (34.6)	0 (0)
Safety level in ITUs	17 (32.7)	25 (48.1)	10 (19.2)
Facilities and infrastructure	20 (38.5)	21 (40.4)	11 (21.2)
Awards received by Covid-19 Task Force	28 (53.8)	22 (42.3)	2 (3.8)
Intensive therapy management	25 (48.1)	27 (51.9)	0 (0)

Table 2 shows that 2 (3.8%) respondents had a 'very comfortable' level of satisfaction, 24 (46.2%) had a 'comfortable' level of comfort, 18 (34.6%) had a 'fairly comfortable' level, and 8 (15.4%) declared it to be

'uncomfortable' level of comfort in the management of COVID-19 therapy.

As regards the level of safety and security of respondents at the COVID-19 referral hospitals, 17 (32.7%) respondents termed it as 'very good' level of security, 25 people (48.1%) termed as 'fairly good' level of security and as many as 10 (19.2%) people opined it a 'low' level of security (Table 3).

Regarding the description of facilities and infrastructure in the management of intensive therapy at the COVID-19 referral hospitals, 20 (38.5%) respondents termed the facilities and infrastructure in the referral hospitals were 'very good', 21 (40.4%) termed it as 'quite good', and 11 (21.2%) answered 'less well' (Table 3).

The awards received by the NSISAIT COVID-19 Task Force in the management of intensive therapy at the COVID-19 referral hospitals, were greeted as 'very good' by 28 (53.8%), 'quite good' by 22 (42.3%), and 'less well' by as many as 2 (3.8%) respondents.

The management of intensive therapy at the COVID-19 referral hospitals in North Sumatra, was described by 25 (48.1%) respondents as 'very well', and 27 (51.9%) described as 'quite well' in carrying out intensive therapy (Table 3).

4. Discussion

The demographic data of the Task Force shows a male gender dominance. This is in accordance with the demographic data of anesthesiology in the US which shows a gender predominance by males, e.g., 53% males vs. 36% females.⁹

The highest response by COVID-19 Task Force workers was received from Marta Friska Multatuli Hospital, 35 (67.3%) respondents). This is in accordance with allocation of more rooms (110 rooms) and intensive care room capacity in that hospital as compared to dr. GL Tobing Hospital (49 rooms).⁷

The handling of COVID-19 in North Sumatra was categorized as 'quite good' by as many as 25 (48.1%) respondents. The results of this study are in accordance with the analysis of COVID-19 cases as of August 15, 2021, where the death rate due to COVID-19 in North

Sumatra Province had increased by 44.3%. Until 15 September 2021, The Government of the Republic of Indonesia had reported 4,178,164 confirmed positive COVID-19 people and 139,682 deaths (CFR: 3.3%) related to COVID-19. The number of COVID-19 cases, as well as critically ill patients, had also increased, so the need of intensive care.⁶

The Governor of North Sumatra formed a specialized group, which involved 19 professional organizations in North Sumatra, so that the handling of COVID-19 was more focused on curative aspect of the disease. However, the productivity of the group was also related to a good community participation.¹⁰

Based on the results of our study on the comfort level, it was found that 20 (38.5%) respondents termed the management as being comfortable. In service or in the environment, comfort is the most important factor that a person must have. If comfort is in the production input, a person will have good work productivity, but if comfort is in the output of the production process, then someone can have the sense of loyalty, satisfaction and appraisal.¹¹

The safety level for intensive therapy management was found at fairly good level by 25 (48.1%) of the respondents. Respondents felt safe because they were made to work according to the standard operating procedures for COVID-19 patient care, including use of Level 3 PPE for their personal protection. This is also in line with a previous research, in which 45% of the participants showed very confident or confident with safe and good techniques in using PPE. As many as 44% believed in the adequacy of the PPE they used for safety.¹²

The facilities and infrastructure in the referral hospital were categorized as 'quite good' by 21 (40.4%) respondents. The majority of them graded as 'fairly good'; probably because during the initial stages of the

pandemic the facilities and infrastructure provided were inadequate, as the number of COVID-19 patients requiring ICU care continued to increase. A similar research, in the Yogyakarta Special Region COVID-19 referral hospital, proved it to be inadequate to serve the increasing number of patients. The surge in patients necessitated additional treatment places in the hospitals.¹³

Regarding the awards for the NSISAIT COVID-19 Task Force, 28 (53.8%) respondents were nominated and awarded.

From the data obtained, the feedback received from the patients is quite good, where some respondents liked the services by the COVID-19 Task Force despite the heavy workload and the high risks involved. A previous study regarding the effect of COVID-19 intensive care provision on healthcare performance at Hospital X in West Java, concluded that the provision of good COVID-19 incentives had a positive effect on the performance of HCWs.¹⁴

Regarding the intensive therapy management at the COVID-19 referral hospitals in North Sumatra, the results showed that as many as half of the respondents had carried out intensive therapy management quite well. This is in accordance with the report of the National Health Commission of China, where more than 40,000 cases were confirmed, 15% of patients with severe degrees required treatment in the ICU and about 1000 patients required non-invasive or invasive ventilation support. Central venous catheterization was also necessary for the safe administration of intravenous drugs in critical care patients. The main transmission of SARS-CoV-2 is through inhaled droplets containing the virus. The most important aspect that must be considered in airway management is the risk of spreading infection to HCWs. All procedures that generate aerosols, including tracheal intubation is a high risk for patients and medical personnel.²

5. Suggestion

This research can be used to improve the intensive therapy management services; and it offers a framework to be considered by the government or non-government agencies to provide better facilities and infrastructure.

6. Conclusion

The results of our study showed that the healthcare workers involved in the intensive care of COVID-19 patients, described the handling of COVID-19 in North Sumatra as very good.

The level of comfort was in the comfortable zone; the level of security was quite good; the facilities and infrastructure was quite good, the awards granted to the

staff was termed as very good, and overall intensive therapy management was quite good.

7. Data availability

The numerical data generated during this research is available with the authors.

8. Acknowledgement

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9. Conflict of interest

The study utilized no external or industry funding.

10. Authors' contribution

APL: Concept, conduction of the study work and manuscript editing

NIP: Conducting of the study work and manuscript editing

11. Reference

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