

Article

Analysis of Supervision of Foreign Ship Arrivals and its Implications for Preventing the Spread of Infectious Diseases at Samarinda Port in 2024

Muhammad Noor^{1*}, Ratih Wirapusita Wisnuwardani², Irfansyah Baharuddin³

^{1,2,3} Mulawarman University

* Correspondence: muhammadnoor051981@gmail.com

Abstract: This study aims to analyse the level of ship arrivals from abroad and strategies for preventing infectious diseases. The methods used include interviews and documentation analysis. This research was conducted from January to September 2024 and the place where this research was carried out at the Samarinda Port. The results of this study are that there are 14 countries that come to the port of Samarinda where China is 423 times and is the most country leaning at the port of Samarinda while Brunei Darussalam is the least country leaning at the port of Samarinda with a total of 4 arrivals, the implementation of infectious disease prevention carried out by the Samarinda Health Quarantine Center I is going well, because the implementation of preventing the spread of infectious diseases is carried out in detail and according to established standards.

Keywords: Overseas Ship Arrivals, Infectious Disease Prevention, Samarinda Harbour

1. Introduction

Ships are a means of sea transport to move goods from one area to another or from one port to another quickly and safely both domestically and abroad. Along with the times where the level of human knowledge is getting higher and the level of human needs for goods is getting bigger, the loading capacity of ships is also getting bigger [1]. Currently, we know various types of ships according to the shape and cargo being transported. The larger and more cargo that is transported, the greater the risk of contracting diseases, therefore we are required to always maintain cleanliness throughout the ship's room. Indonesia is an archipelago with 17,504 islands consisting of large or small islands and has a very strategic position because it is flanked by two continents and two oceans and is on the international trade traffic route with many entrances to Indonesian territory [2]. This is an opportunity, but also a risk factor for the spread of disease and health problems. Currently, it is busy or rampant related to the Mpox Virus monkey pox which occurred for the first time in China. In this case the Port Health Office plays a role in protecting the Indonesian people from the virus. The year 2024 records new challenges in health quarantine surveillance, especially in managing the risk of infectious diseases such as monkey pox, which can be carried by ship crews from endemic areas. This study aims to analyse ship health surveillance data at Samarinda Port during 2024, identify the effectiveness of the procedures applied, and provide recommendations to improve future surveillance [3].

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According to Indonesian Law Number 17 of 2023 concerning Health, the definition of health quarantine is an effort to prevent and ward off the exit or entry of diseases and/or public health risk factors that have the potential to cause public health emergencies (PHE). This activity is an effort to prevent the spread of diseases of international concern or new emerging diseases, both old diseases that have reappeared, new diseases and bio-terrorism and potential outbreaks that threaten at the entrance to regions and countries. Based on Health Law no 17 of 2023 and the IHR of 2005, every ship that arrives and carries out activities in the waters of a particular country must report to the local port authority through the shipping agent as an extension of the ship owner by notifying the arrival of the ship to the health quarantine officer (Quarantine Officer) for supervision and examination of risk factors and eligibility standards in accordance with applicable regulations [4].

2. Materials and Methods

This research explains the existing phenomenon by developing concepts and collecting facts. The author intends to analyse existing data at the Samarinda Class I Health Quarantine Center, and explain the events that occurred at the research location.

Data analysis is the process of arranging the order of data, organising it into a pattern, category, and one basic description. Data analysis was carried out to answer the problems in this study, namely data obtained from observations, interviews and documents from related agencies from other sources [5].

Then the data is analysed qualitatively which is then described descriptively or described in accordance with the reality in the field. Then compared with concepts and theories that support the discussion in this study, which support to draw conclusions and are presented in the form of descriptions of sentences with explanations.

The data used in this study are secondary data in the form of basic data from the Samarinda Class I Health Quarantine Centre in the form of activity planning documents, recording documents and reporting on activities to monitor the arrival of ships from abroad [6].

3. Results

The data obtained and will be explained in the data analysis include:

1. List of ships from the country of origin of the ship as well as the number of crew members and health status under the supervision of the Samarinda Class I Health Quarantine Centre.
2. How is the procedure for sanitary inspection of ships carried out by Port Health Office officers?
3. What are the conditions for disease prevention on board
4. Mechanisms that affect the effectiveness of disease prevention on ships
5. Strategies that can be implemented to improve shipboard disease prevention

Data Analysis

List of ships under surveillance at the Samarinda Class I Health Quarantine Centre.

NO	COUNTRY OF ORIGIN	Number of Vessels January-September 2024	Number of Crew January-September 2024
1	BRUNEI	4	92
2	BANGLADESH	18	720
3	CHINA	423	317.673
4	HONG KONG	63	9.702

5	INDIA	9	189
6	JAPAN	45	4.635
7	KOREA	45	4.770
8	MALAYSIA	36	2.664
9	PHILIPPINES	99	23.859
10	SINGAPORE	54	7.182
11	TAIWAN	81	15.147
12	THAILAND	18	810
13	VIETNAM	90	19.710
14	CAMBODIA	9	189

Source: Data Processed, 2024

From the data table above, it can be explained that the highest arrival of foreign ships came from China as many as 423 arrivals to Samarinda Port with a crew of 317,673 crew members with observations from January to September 2024. While the lowest arrival of ships from abroad from the State of Brunei Darusallam was 4 times with a crew of 92 crew members with observations from January-September 2024 [7].

The Process of Checking the Presence of Infectious Diseases by the Samarinda Class I Health Quarantine Centre.

The stages of the process carried out by the Port Health Office to check the presence of infectious diseases on board:

- 1) The agent gives information to the BKK Class 1 Samarinda officer that there will be a ship coming, the agent gives information 1 day before the arrival of the ship.
- 2) The agent also provides information to the incoming ship to prepare several documents that will be requested by BKK Class 1 Samarinda officers such as, Ship Sanitation Certificate, Ship Health Book, Ship Crew List, Vaccination List, Maritime Health Declaration, Stopover Port List and Sailing Approval Letter.
- 3) The BKK Class 1 Samarinda officer checks the presence of infectious diseases 2/3 hours before the berthing, and the ship is at anchor.
- 4) After boarding the vessel, the BKK Clash 1 Samarinda officer requests and checks the validation and validity period of the certificate that has been prepared by the crew.
- 5) If the SSCEC certificate is almost expired, the officer advises the ship to extend the SSCEC certificate at the next port.
- 6) After checking the certificate, the officer then checks the rooms that trigger the presence of infectious diseases, for example in the ship's kitchen, food storage room, garbage disposal, stagnant water and crew room.
- 7) After the inspection, if there is no presence of disease on the ship, the ship will be declared safe from disease and can continue planning to dock the ship to carry out the loading and unloading process.
- 8) However, if the BKK Class 1 Samarinda officer finds the presence of disease on the ship, then an action will be taken to eradicate the disease on the ship, the BKK Class 1 Samarinda officer will provide information to a third private party to carry out an examination and take action to eradicate infectious diseases.

Results of checking ship arrivals from abroad January-September 2024

NO	COUNTRY OF ORIGIN	Ship Health Document	Ship Sanitation	Ship's crew
1	BRUNEI	Complete and Valid	Qualified	Healthy
2	BANGLADESH	Complete and Valid	Qualified	Healthy
3	CHINA	Complete and Valid	Qualified	Healthy
4	HONG KONG	Complete and Valid	Qualified	Healthy
5	INDIA	Complete and Valid	Qualified	Healthy
6	JAPAN	Complete and Valid	Qualified	Healthy
7	KOREA	Complete and Valid	Qualified	Healthy
8	MALAYSIA	Complete and Valid	Qualified	Healthy
9	PHILIPPINES	Complete and Valid	Qualified	Healthy
10	SINGAPORE	Complete and Valid	Qualified	Healthy
11	TAIWAN	Complete and Valid	Qualified	Healthy
12	THAILAND	Complete and Valid	Qualified	Healthy
13	VIETNAM	Complete and Valid	Qualified	Healthy
14	CAMBODIA	Complete and Valid	Qualified	Healthy

Source: Data Processed, 2024

From the table above, it can be explained that from a total of 14 countries that entered the port of Samarinda and were supervised with strict procedures in January-September 2024, all ships from abroad have complete and valid documents and ship sanitation meets the requirements and the health of the crew is considered [8].

4. Discussion

The Condition Of Infectious Disease Prevention On Ships Arriving From Abroad Under The Supervision Of The Samarinda Class I Health Quarantine Centre.

From the previous data table related to the number of ship arrivals from January to September 2024, there are several ships that are of concern to the Samarinda Class I Health Quarantine Center as follows:

1. Arrival of Overseas Ships from China, the prevention conditions applied from this ship focus on maintaining the personal hygiene of the crew and also further preventing the rise of animals that trigger the transmission of diseases caused when the ship docked at the previous port, because considering that China was the first country to find covid-19 in the past. Here are some of the preventive conditions applied on the ship
 - a. Ensure that all rooms are clean and have been sprayed with disinfectants regularly
 - b. Conduct random sampling related to food when sailing

- c. Conducting detailed and early checks of crew members through predetermined standards.
2. The arrival of an overseas ship from Vietnam, emphasising to the ship's captain to each crew member to better maintain cleanliness in the food storage room, garbage disposal because from the results of the analysis in the rules of the ship from Vietnam has implemented the applicable system but found small things such as food that has been stored for a long time which will be the beginning of growing diseases.
3. Arrival of Overseas Vessels from Thailand, Each crew member is emphasised to regulate health and rest patterns, because in the inspection process everything is fine according to the rules but when interviewed the crew feels a lack of rest hours so that the crew is exhausted. This has been emphasised to the ship's captain to make a rest schedule according to portions and conditions.

Factors Affecting the Effectiveness of Communicable Disease Prevention on Overseas Arrival Ships

The following are some of the mechanisms that affect the effectiveness of prevention on ships:

- a. Lack of Awareness of the Ship's Crew
The lack of awareness in question is awareness of cleanliness around or the ship's environment, for example the crew's room is still littered with leftover food or garbage scattered in the room, piles of garbage that are left to rot and not disposed of. Crews often neglect their obligations to clean all rooms and media on board, this is a common problem that usually occurs on ships, of course this causes serious problems if there is the presence of disease on board. For example, when waking up, the crew should look at the state of the bedroom, if it is still dirty or scattered, it should be cleaned and tidied up first.
- b. Lack of cleaning tools on board
Such as 3-colour trash cans, these trash cans are very necessary on board. The criteria for colour and type of waste in sorting waste containers include green barrels for organic waste, yellow barrels for inorganic waste and red barrels for waste containing hazardous and toxic materials (B3). With this colour distinction, crew members can distinguish the waste to be disposed of, in order to prevent diseases from piles of garbage. Furthermore, food storage is very minimal, it often happens when crew members who bring food from the port board the ship and on the ship have very minimal storage space, then the crew is forced to store the food in their room, which triggers the presence of vectors in the crew room.

Implementable Strategies to Improve Prevention of Infectious Diseases on Ships The following are some strategies that can be implemented to improve infectious disease prevention on board:

1. The ship's captain punishes any crew member who is caught not participating in maintaining cleanliness on board, carried out every week and the punishment is given in stages.
2. Disinfection, which kills microorganisms on a surface until they no longer pose a disease threat. Disinfection is carried out by the Port Health Office.
3. Having a storage stock of insecticides, which are poisons to kill insects, pests and vectors derived from chemicals.
4. Sterilisation is a process designed to create a sterile state, by means of the destruction and absolute elimination of all living microorganisms.
5. Ship sanitation, ship sanitation checks are carried out on all parts of the ship, namely the deck, crew rooms, bathrooms, toilets, kitchen parts and storage warehouses [9]. Sanitary inspection of the ship in addition to aiming to maintain the comfort and safety of the crew as well as the issuance of SSCEC certificates which indicate that the

ship is safe from disease to be known by agents and ship companies. Ship sanitation is carried out directly by the Port Health Office.

6. Proper storage and disposal of food waste and rubbish.
7. Elimination of insect larval habitats, ideally through design, avoidance and maintenance e.g. prevention of puddle formation in lifeboats [10].

5. Conclusion

Based on the results of research on the analysis of foreign ship arrivals and their implications for preventing the spread of infectious diseases at the port of Samarinda that has been carried out by researchers, it can be concluded as follows:

1. The condition of preventing the spread of infectious diseases on board generally runs well but not maximally marked by the existence of conditions that can cause disease, therefore the ship always carries out cleaning in every room of the ship which is usually the place where there is a vital presence that causes the initial spread of infectious diseases [11].
2. Mechanisms that influence the effectiveness of preventing the spread of infectious diseases on ships, namely the lack of awareness of the crew and the lack of cleaning tools on board.
3. Strategies that can be implemented are sterilisation, disinfection, routine hygiene checks of food storage and garbage disposal [12].

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