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Implementation of Epidemiological Surveys Monitoring in the Class III Airport in Banda Aceh

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Abstract

Airport epidemiological surveillance is the monitoring of the arrival and departure of aircraft and passengers with the potential to cause disease and the risk of epidemics and outbreaks. The purpose of this study was to determine the operational performance analysis and epidemiological reporting in the Class III Airport area of Banda Aceh. This study uses an evaluative descriptive approach and case studies with surveys and direct observations in the field. Data collection techniques are done using secondary data and documentation studies. The results of the study there are significant differences between domestic and foreign flights and unknown flights with a significance value of 0,000 or less than 0.05. there is no significant difference between the incoming crew and the departing crew with a significance value of 0.752 or greater than 0.05 where t arithmetic is still lower than the threshold value of 1.96. There is a significant difference between the number of passengers arriving and the number of passengers leaving. This is seen from the significance value of 0.001 or smaller than the threshold value of 0.05, where t value (3,419) is greater than the threshold value of 1.96. So that it can be proven that the number of passengers arriving and departing is different There is no significant health difference between passengers arriving and passengers leaving from the SIM airport with a sig value of 0.259 or greater than 0.05 where t value is below 1.96. The health conditions of passengers arriving and departing throughout 2019 are the same.

Introduction

Health development is a goal to increase awareness, willingness and ability to live healthy for everyone in order to realize the highest degree of public health, which is carried out sustainably based on national capabilities by utilizing available resources and taking into account global and specific local challenges (Murti, 2008). As the health technical implementation unit, the Class III Port Health Office of the Airport area based on the Minister of Health Regulation No. 356 / Menkes / Per / IV / 2008, based on the Minister of Health Regulation, is the prevention of entry and exit of potential outbreaks, epidemiological surveillance, carelessness, control the impact of environmental health, health services, OMKABA supervision and security against new and re-emerging diseases (Yolli, 2016). be it bioterrorism, biological, chemical and radiation safety elements in the working area of ports, airports and cross-border countries. So that efforts to tackle disease can be carried out more effectively and efficiently and the impact does not cause health problems for the wider community, early detection of the potential spread

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of infectious diseases potential outbreaks needs to be improved. (Gaber et al., 2009). This effort was carried out by increasing the ability of officers to carry out epidemiological surveillance through the collection, processing, analysis and dissemination of data, and the formation of an Epidemiological Surveillance Team (Mudatsir, 2016). Overcoming KLB KKB in the working area of Banda Aceh Airport class III by analyzing operational performance records and reports every month and every year to monitor and supervise air traffic in and out (Yusri et al., 2016; Safrizal & Amirah, 2019). The purpose of this study was to determine the operational performance of epidemiological surveillance of increasing air traffic in Class III Banda Aceh in 2019.

Methods

This study uses a quantitative and qualitative descriptive approach and case studies with surveys and direct observations in the field. Data collection techniques used secondary data and documentation studies (Amiruddin, 2013). Analysis of surveillance activity data that is describing an actual situation based on the results of analysis and interpretation that will be described in the form of tables, graphs, and narratives. (Sugiarsi, 2013).

Results and Discussion

Aviation intensity distribution

Analysis of operational performance of epidemiological surveillance in the working area of Class III KKP Banda Aceh is a gateway for entry and exit of aircraft that allows one to travel across continents from one country to another (WHO, 2016). So that prevention and supervision activities really need to be done to overcome the possibility of transmission of diseases to other regions (Wilder-Smith et al., 2009).

Table .1 Distribution of flight intensity based on Monthly in 2019

Month		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	January	369	7.3	7.3	7.3
	February	435	8.6	8.6	15.8
	March	456	9.0	9.0	24.8
	April	409	8.1	8.1	32.9
	May	388	7.6	7.6	40.5
	June	396	7.8	7.8	48.3
	July	447	8.8	8.8	57.1
	August	435	8.6	8.6	65.7
	September	430	8.5	8.5	74.2
	October	473	9.3	9.3	83.5
	November	427	8.4	8.4	91.9
	December	411	8.1	8.1	100.0
	Total	5076	100.0	100.0	

Based on Table. it can be seen that as many as 5,076 flights, the most intense flight intensity during 2019 were flights in October with a total of 473 flights. While January has the lowest number of flights where there are only 369 flights.

Distribution based on the direction of flight arrival

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The direction of flight arrival at Kualanamu Airport Banda Aceh can be seen in the following table:

Table. 2 Distribution based on 2019 Flight Arrival Directions

Arrival Direction		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	686	13.5	13.5	13.5
	Domestic	2809	55.3	55.3	68.9
	Overseas	1580	31.1	31.1	100.0
	Total	5075	100.0	100.0	
Missing	System	1	.0		
Total		5076	100.0		

Based on table 2. it is known that the number of flights coming to Kualanamu airport is more than in the country with 2,809 flights, and 1,580 flights abroad. While flights that are not known for the direction of arrival were 686 flights.

Table 3. Distribution of the number of flights coming from domestic and abroad in 2019.

Aircraft Name	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Not known	686	18.75	2.283	.087	18.58	18.92	2	23
Domestic	2809	14.22	7.977	.151	13.92	14.51	2	27
Overseas	1580	6.61	9.061	.228	6.16	7.06	1	25
Total	5075	12.46	8.899	.125	12.22	12.71	1	27

The table 3. shows that out of a total of 5,075 flights, it is known that the number of flights coming from within the country is more (2,809 times) compared to the number of flights coming from abroad (1,580 times). While there are 686 unknown flights.

Table 4. Distribution Differences in the number of flights arriving from domestic and overseas in 2019.

Multiple Comparisons

Dependent Variable: Aircraft_Name

LSD

(I) Maturity Direction	(J) Maturity_Direction	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Not known	Domestic	4.532*	.334	.000	3.88	5.19
	Overseas	12.141*	.359	.000	11.44	12.84

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Domestic	Not known	-4.532*	.334	.000	-5.19	-3.88
	Overseas	7.609*	.247	.000	7.13	8.09
Overseas	Not known	-12.141*	.359	.000	-12.84	-11.44
	Domestic	-7.609*	.247	.000	-8.09	-7.13

*. The mean difference is significant at the 0.05 level.

Table 4. explains that, there are significant differences between domestic and foreign flights and unknown flights with a significance value of 0,000 or less than 0.05, so it can be said that domestic and foreign flights and flights that are not really known have a difference.

Distribution of aircraft crew composition at the airport

Table 5. Distribution of Differences in Composition of Crew Arriving and Departing aircraft at 2019

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Crew_ Come and Departure	Equal variances assumed	.035	.851	-.317	10150	.752	-.020	.062	-.142	.102
	Equal variances not assumed			-.317	10148.963	.752	-.020	.062	-.142	.102

Table 5. explains that there is no significant difference between the incoming crew and the departing crew with a significance value of 0.752 or greater than 0.05 where t arithmetic is still lower than the threshold value of 1.96. In other words the composition of the arrival and departure of the crew is the same.

Distribution of passenger composition

Based on the composition of passengers arriving and departing from Banda Aceh SIM Airport are as follows:

Table.6. Composition of Passenger Arrival and Departure Composition in 2019

Group Statistics	Passenger Status	N	Mean	Std. Deviation	Std. Error Mean
Passenger_Datch_Berang	1	5076	121.84	81.534	1.144
	2	5075	116.37	79.459	1.115

Based on the table above the average number of passengers who arrived was 122 people, while the average number of passengers leaving was 116.37 people.

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Table. 7 Distinguished Difference between Passenger Arrival and Departure in 2019

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PENUMPANG_DATANG_BRGKT	Equal variances assumed	6.703	.010	3.419	10149	.001	5.464	1.598	2.332	8.597
	Equal variances not assumed			3.419	10142.364	.001	5.464	1.598	2.332	8.597

Based on table 7. it is known that there is a significant difference between the number of passengers arriving and the number of passengers leaving. This can be seen from the significance value of 0.001 or smaller than the threshold value that is 0.05, where t value (3,419) is greater than the threshold value of 1.96. So it can be proven that the number of passengers arriving and departing is different.

Table 8. Distribution of the health conditions of incoming and departing passengers in 2019

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Up_ passenger_ conditions	114.80	5076	79.590	1.117
	Passenger_Oper condition	116.35	5076	79.468	1.115

Table 9. Distribution of the different health conditions of incoming and departing passengers in 2019

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Up_Command_Conditions -- _Command_Conditions	-1.546	97.501	1.369	-4.229	1.137	-1.130	5075	.259

Table 9. explains that there is no significant health difference between incoming passengers and passengers departing from Kualanamu airport with a sig value of 0.259 or greater than 0.05 where the t value is below 1.96. Thus it can be said that the health conditions of passengers arriving and departing throughout 2019 are the same.

Based on the regulation of the minister of health of the Republic of Indonesia Number 2348 / MENKES / PER / XI / 2011, the Class III KKP Banda Aceh has the task of carrying out prevention of entry and exit of diseases, potential outbreaks, epidemiological surveillance, disability, control of environmental health impacts, health services, OMKABA supervision and security against new diseases and reemerging diseases, bioterrorism, biological, chemical and radiation protection in the working area of airports, ports and land cross-border states. international and domestic flights (Andriani & Izzati, 2018). The role of the KKP in the airport's

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working area is to supervise the arrival and departure of ships and aircraft in anticipation of global threats against potential outbreaks, quarantine and re-emerging diseases and diseases related to PHEIC.

Based on the results of the study, flight intensity shows the number and percentage of aircraft arrivals and departures in 2019. Arrivals / departures of aircraft overseas are far less than arrivals / departures of domestic ships. This is due to the fact that there are still very few foreign airlines that enter and depart from and to SIM Airport. While based on the arrival of the flight crew at SIM Airport that there is no significant difference between the crew coming and the crew leaving with a significance value of 0.752 or greater than 0.05 where t arithmetic is still lower than the threshold value of 1.96. In other words the composition of the arrival and departure of the crew is the same. The flight crew members were also constantly monitored by their health condition by the Banda Aceh KKP surveillance officers.

Based on the number of SIM airport passengers arriving at 121.84 people, while the average number of departing passengers was 116.37 people. This shows that many passengers work outside the Banda Aceh area, especially in Malaysia and are educated abroad.

Transportation resources owned by the KKP of the Banda Aceh Airport Class III working area used in the implementation of epidemiological surveillance activities are in accordance with the Operational Indicators that must be owned by the Port Health Office based on the Decree of the Minister of Health of the Republic of Indonesia Number 1116 / MENKES / SK / 2003 concerning Guidelines for Implementing a Health Epidemiological Surveillance System . Monitoring and controlling air traffic will prevent the risk of spreading infectious diseases. World Health Organization. (2014) Further explained that surveillance is a "stepping stone" in public health activities. Because with surveillance we will get accurate data about health events in the community. Surveillance is also the first step in public health interventions. Schneider et al., (2011) describe the CDC as Health Surveillance is a systematic procedure in collecting, processing, analyzing, and interpreting data, which is followed by the application of the data to public health programs in order to improve public health activities.

Conclusion

Based on the results of the study it can be concluded that the performance of SIM airport epidemiological surveillance based on the direction of arrival and departure of the aircraft is more than in the country compared to overseas. While based on the flight crew there is no significant difference between the crew who came and the crew who left with a significance value of 0.752 or greater than 0.05 where t arithmetic is still lower than the threshold value of 1.96. Based on the composition of passengers arriving and departing there is a difference This is seen from the significance value of 0.001 or smaller than the threshold value of 0.05, where t value (3,419) is greater than the threshold value of 1.96. While based on passenger health conditions there is no significant difference between when departing and arriving sig value of 0.259 or greater than 0.05 where t value is below 1.96.

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