

The Relationship of Close Contact Status and Travel History with Covid-19 Events in Sumenep Regency

Sanggita Nurdi Asmoro¹, Dwi Handayani^{1*}

¹ Public Health Departement, Faculty of Medicine, Nahdlatul Ulama Surabaya University, Surabaya, Indonesia

*Corresponding author. Email:handayani.dwi@unusa.ac.id

ABSTRACT

The Sumenep Regency Covid-19 task force team noted that the spread of Covid-19 since the beginning of the pandemic has continued to increase in the number of cases. This study aims to determine the relationship between close contact status and travel history with the incidence of Covid-19 in Sumenep Regency. This study is an analytical study with an observational quantitative approach with design case control using secondary data sources for the Covid-19 epidemiological investigation Sumenep Regency Health Office. The cases in this study were all suspects who were tested for RT-PCR swabs and the results of the examination were positive for Covid-19. The controls in this study were all suspects who were tested for RT-PCR swabs and the results of the examination were negative for Covid-19. The samples of cases and controls is 1 : 1, each of which is 98 people with a simple random sampling technique. Data analysis used test Chi square (X²). The results showed that there was a relationship between close contact status and the incidence of Covid-19 in Sumenep Regency ($p = 0.00$; OR = 7.885) and there was a relationship between travel history and the incidence of Covid-19 in Sumenep Regency ($p = 0.00$; OR = 5.712). The conclusion of the study shows that close contact status and travel history are risk factors for the incidence of Covid-19 in Sumenep Regency. The recommended advice is always wearing a mask when in contact with family or other people and limiting travel to only important things.

Keywords: covid-19 incidence, close contact status, travel history

1. INTRODUCTION

Data reported that until December 31, 2020, Indonesia was ranked 1st in Southeast Asia with details of the number of people being examined as many as 4,079,605 people, confirmed cases of Covid-19 totaling 743,198 cases, as many as recovering 479,202. people and 22,138 cases of death with Case Fatality Rate (CFR) 3.1%, this value is high above the world's Case Fatality Rate (CFR) with a value of 2.2% [1]. There are 3 provinces with the highest total confirmed cases, namely East Java with 993,770 cases, DKI Jakarta with 227,000 cases and West Java with 113,000 cases.

Sumenep Regency is one of the one district with a high positive confirmed case of Covid-19. The Sumenep Regency Covid-19 Task Force Team explained that based on the updated data on December 31, 2020, 23 people were declared suspicious while waiting for the results of the RT-PCR examination 2 times and as many as 1,196 positive confirmed cases of Covid-19, 885 were confirmed to have completed isolation, while others were undergoing isolation or care.

Meanwhile, the Sumenep Regency Covid-19 task force team noted that currently there have been 142 close contacts of Covid-19 cases who were declared negative for the

corona virus and participated in the self-isolation program. Some case reports indicate suspected transmission from Covid-19 patients, cases related to transmission from Covid-19 patients usually have a history of close contact with Covid-19 patients. Several other risk aspects that were inaugurated by the Centers for Disease Control and Prevention (CDC) are close contact, including living in the same house with a confirmed Covid-19 patient and a history of travel to an infected area [2].

Based on the background of the problem above, it is necessary to conduct research on "The relationship of close contact status and travel history with the incidence of Covid-19 in Sumenep Regency" which aims to determine the relationship of close contact status and travel history with the incidence of Covid-19 in Sumenep Regency.

2. METHODS

This research is an analytic type of research using an observational quantitative approach with a research design case control. This research is located in the working area of the Sumenep District Health Office. The population of this study was all people (suspects) who were tested by the RT-PCR Swab in the work area of the Sumenep District Health Office, recorded in the Covid-19 report for the period 1 October to 31 December 2020 at the Sumenep District Health Office.

The cases in this study were all people (suspects) who were tested for RT-PCR swabs and the results of the RT-PCR examination were positive for Covid-19. The controls in this study were all people (suspects) who were tested for RT-PCR swabs and the results of the RT-PCR examination were negative for Covid-19. The number of samples of cases and controls is 1: 1, each of which is 98 people, with a simple random sampling technique.

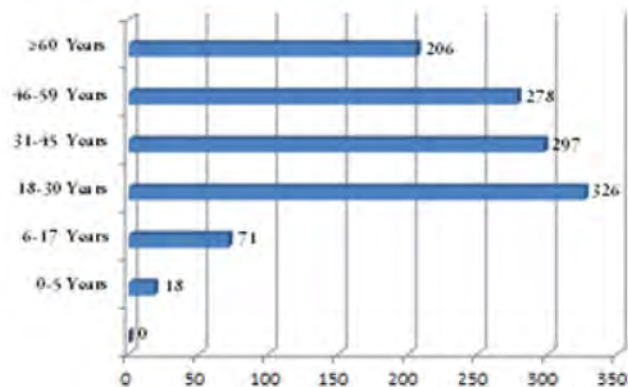
Data analysis used bivariate analysis. In this study, bivariate analysis was carried out using the Chi Square (χ^2) test. If the degree of confidence used is 95% with a of 0.05. So it can be assumed that if $p\text{-value} < 0.05$, it can be concluded that there is a significant (significant) relationship or indicates a relationship between the variables studied. Meanwhile, if the $P\text{ value} > 0.05$ then the results of statistical calculations are not meaningful or there is no significant relationship between the variables studied.

3. RESULTS AND DISCUSSION

3.1. Overview of Covid-19 Incidence in Sumenep Regency

Based on the results of the study, the incidence of Covid-19 in Sumenep Regency can be classified based on the variables of people (gender and age), time and place.

Figure 1. The Bar Chart Covid-19 Incidence By Age Group



Based on Figure 1, the most cases of Covid-19 occurred in the 18-30 year age group, namely 326 cases. Age with a level of natural immunity, where individuals aged <50 years and more have a tendency to be infected along with a decrease in natural immunity [3].

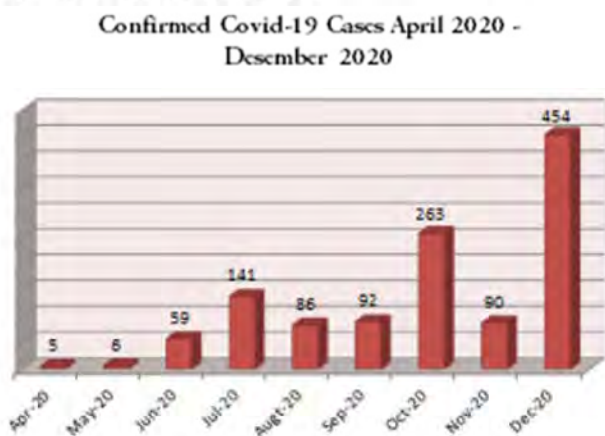
Figure 2. Pie chart of Covid 19

incidence by gender



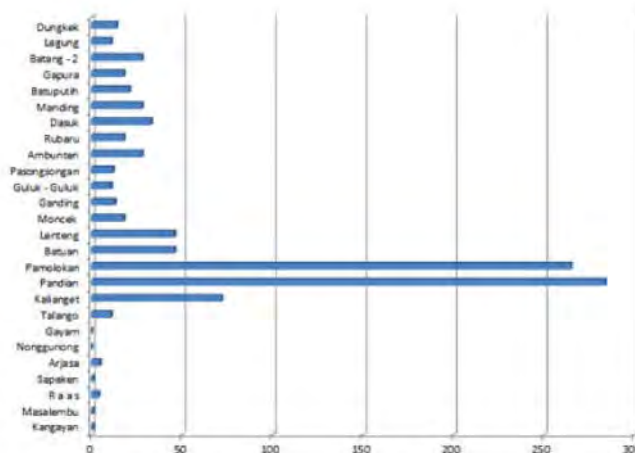
Based on Figure 2. the incidence of Covid-19 in Sumenep Regency is more common in men than women, which is 56%. This happens because men often do activities outside the home related to work. Male gender is 28% more at risk of being infected with Covid-19 compared to female [4].

Figure 3. The Bar Chart Covid-19 Incidence By Time of Occurrence



Based on Figure 3. the time of the occurrence of Covid-19 in 2020 in Sumenep Regency the most occurred in December (454 cases) and the least occurred in April (5 cases).

Figure 4. The Bar Chart Covid-19 Incidence According to the Health Center



The working area of the Pandian Health Center is an area with a high population density. This refers to the fact that urban areas that have a high population density compared to suburban areas will cause faster disease transmission with more complex distribution chains [5].

3.2. Overview of Close Contact Status for Covid-19 Confirmed Patients in Sumenep Regency

Figure 5. Pie Chart of Close Contact Status for Covid-19 Confirmed Patients

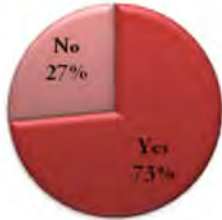


The results of the study on Covid-19 confirmed patients of the 98 people who had close contact status were 61 people (62.2%) and 37 people (37.8%) who did not have close contact status. There is a negative stigma among the people of Sumenep Regency who do not believe in Covid-19 so that people rarely wear it masks, except when on the highway for fear if no checks by the police.

3.3. Overview of Travel History for Covid-19 Confirmed Patients in Sumenep Regency

Figure 6. Pie Chart of Travel History for Covid-19 Confirmed Patients

Positive Covid-19



The results of the study on confirmed Covid-19 patients from 98 people who had a travel history were 72 people (73.5%) and 26 people with no travel history (26.5%). Based on secondary data obtained, the most confirmed Covid-19 patients traveled to the cities of Surabaya, Gresik and Sidoarjo. The red zone case is a condition that is very at risk of transmitting Covid-19 [6].

3.4. The Relationship of Close Contact Status with Covid-19 Incidents in Sumenep Regency

Table 1. The Relationship of Close Contact Status with Covid-19 Incidents in Sumenep Regency

Close Contact Status	Examination Results RT-PCR		p-value	OR
	Positive	Negative		
Close Contact	61 (62.2%)	17 (17.3%)	0.00	7.885
No Contact	37 (37.8%)	81 (82.7%)		
Total	98 (100%)	98 (100%)		

The results of statistical analysis show $p\text{-value} = 0.00 < 0.05$, which means H_0 is rejected and H_a are accepted, which indicates that there is a relationship between close con-

tact status with Covid-19 incident. The OR (Odds Ratio) value of 7.885 means that close contact is a risk factor for Covid-19, exposure to close contacts increases the risk of confirmed Covid-19 7.885 times greater than those without exposure to close contacts.

There are still people who hold events and create crowds, such as weddings, traditional events and gatherings with family as well as the stigma of the Sumenep Regency community who does not believe in Covid-19 and ignores health protocols, causing the transmission of Covid-19 to be higher. The results of this study reinforced by the statement Centers for Disease Control and Prevention that close contact is one of the risks of transmitting Covid-19 [2].

3.5. The Relationship of Travel History with Covid-19 Incidents in Sumenep Regency

Table 2. The Relationship of Travel History with Covid-19 Incidents in Sumenep Regency

Travel History	Examination Results RT-PCR		p-value	OR
	Positive	Negative		
Yes	72 (73.5%)	32 (32.7%)	0.00	5.712
No	26 (26.5%)	66 (67.3%)		
Total	98 (100%)	98 (100%)		

The results of statistical analysis show $p\text{-value} = 0.00 < 0.05$, which means H_0 is rejected and H_a is accepted, which indicates that there is a relationship between travel history and Covid-19 incident. The OR (Odds Ratio) value of 5.712 means that the travel history is at risk of experiencing Covid-19 events 5.712 times greater than those without a travel history.

Most of the people of Sumenep Regency travel outside the city for work, this causes the level of travel history of the people of Sumenep Regency to be high even in the midst of a pandemic. In its spread, travel and living in areas exposed to Covid-19 is one of the main risk factors. This is in line with several other risk aspects that have been inaugurated by the Centers for Disease Control and Prevention, namely the existence of close contact, including living in the same house with a confirmed Covid-19 patient and a history of travel to an infected area [2].

4. CONCLUSION

Based on the results and discussion in this study, it can be concluded that the relationship between close contact status with the incidence of Covid-19 in the District Sumenep with a big risk of people who have close contact status 7.885 times more bigger than people who don't have close contact status. There is a relationship of travel history with the incidence of Covid-19 in Sumenep Regency with a high risk of people who has a travel history of 5.712 times bigger than people who don't have a travel history.

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