Prevention of COVID-19 Spread Management in Various Countries: Comparation with Indonesian Case Study

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Abstract

Introduction: In December 2019, there was a discovery of a new strain of coronavirus originated in Wuhan, China. The Virus spreads fastly inter-human by droplets. As due to its rapid spread to many countries, WHO declares the Covid to be a global pandemic. Many countries began to devise a mitigation plan to curb the spread, lowering the new cases found, and eventually, lowering the mortality rate. The purpose of this literature review is to analyze each country’s mitigation plan for Covid-19, and how the Indonesian’s response in particular.

Method: the search for articles and journals will be conducted via web browsing, using the database such as Sciencedirect, PubMed, and Google Scholar. The applied keywords will be the Prevention Spread of Covid-19 and Covid-19 management model. As many as 6 related articles are match with the inclusion and exclusion criteria.

Result: several countries applied the prevention model of Covid-19 virus spread. There are several countries which are successful in lowering down the spread of virus and there are also vice versa. Many factors make the results different in each country, such as the speed of the enactment of policies, lack of vigor in medical protocol enforcement to the citizen, or the lack of risk awareness by the people themselves.

Conclusion: the prevention measures in which are enacted by various countries are properly conducted, but the study shows that the effectiveness of all prevention measures can be traced back to the speed of the policy enactment, the force to enforce the medical protocol, limiting access to a certain region, and finally a massive screening for Covid diagnosis.

Keywords: prevention of spread, covid-19, health protocol

INTRODUCTION

In December 2019 there was a discovery of a case similar to pneumonia in Wuhan City, Hubei Province, China. After investigation, the cause came from a virus and was named the 2019 novel coronavirus (2019-nCoV). Then only in February 2020, WHO announced a new name, Corona Virus Disease (COVID-19). The number of cases due to Covid-19 has been increasing and spread to various provinces in China. At the end of January 2020 7,736 cases occurred in China and 86 other cases occurred in various countries such as Taiwan, Thailand, Vietnam, Malaysia, Nepal, Sri Lanka, Cambodia, Japan, Singapore, Saudi Arabia, South Korea, the Philippines, India, Australia, Canada, Finland, France and Germany. Since then WHO has determined that Covid-19 is not an epidemic case but a pandemic case.
Based on the nature of the spread of the virus, Covid-19 can spread from human to human which is the main source of transmission. Transmission from sufferers to other humans is through droplets that come out when coughing or sneezing(1). Because of its rapid spread, all governments in the world are designing disaster mitigation to reduce the occurrence of risk and reduce the mortality rate of covid-19 events. Covid-19 disease is a disease of the new virus, so there is no vaccine yet and knowledge of its prevention is still limited. The key to prevention is actually simple, which involves breaking the chain of transmission with isolation, early detection, and doing basic protection (implementing clean and healthy living behaviors)(2).

Prevention policies taken by governments in various countries are carried out more or less in the same way, but produce different success rates. As the policy chosen by the Chinese government is to impose restrictions on the entry and exit of the city of Wuhan, and also recommends washing hands, self-isolation and independent quarantine, it is considered effective enough to reduce the spread of the virus to various cities in China and to other countries (3). This can be seen from the declining number of new cases in China since early March(4). Not much different from China, the way the Taiwanese government has done to prevent the spread of covid-19 is by moving quickly since two weeks of the first report of a positive case of January 21, 2020 by advising and ordering its citizens to discipline hand hygiene, wear masks and apply social distancing(5). The responsiveness of the Taiwanese government coupled with the discipline of its citizens to comply with established health protocols makes Taiwan one of the countries considered to be good in controlling the spread of covid-19 because there was no increase in cases in February (CNN Indonesia 2020). Contrary to that, in various countries in Europe such as Italy, Spain, France and Germany have also implemented health protocols similar to those in China, but the mortality rate and its spread rate are increasing every day even the numbers far exceed China(6).

Similar to other countries, on the advice and recommendations from WHO, the Indonesian government has also applied Covid prevention management since the confirmation of the first and second cases by forming a co-19 handler taskforce, then began to urge citizens to adopt a clean and healthy lifestyle, and in some regions also have large scale social restrictions(7).

As a result of the very fast nature of Covid-19 transmission, many people in the world are already infected. Until now, as of June 24, 2020, the number of covid cases in the world has reached 9,129,146 people. All efforts of governments from various countries have been carried out to reduce the spread of the virus, but there are still in some countries the number of people with Covid-19 numbers is increasing despite the management of prevention of spread. Based on this background, the purpose of this review literature is to analyze the management of the handling of the spread of Covid-19 in various countries and their application in Indonesia.

METHOD

Search Strategy
The article used for literature review is a full text article published in 2019-2020. Articles are obtained through databases such as Science direct, PubMed, and Google Scholar. The keywords used in the search for articles are. "Prevention spread of covid-19", "covid-19 management model". The inclusion criteria for writing this literature review are full text articles, articles in accordance with PICO, articles with searches from 2019 to 2020, and articles in English or Indonesian. The exclusion criteria are systematic review articles and covid-19 articles with comorbid.

Study Selection
The articles obtained and fulfilled the criteria were 6 articles, namely 3 articles from Science Direct, 1 article from
Pubmed, and 2 articles from Google Scholar. The article selection process is described in diagram 1. Screening through the title, the article can be accessed without paying. Researchers choose according to the theme of management of handling the spread of Covid-19 in various countries and the selected literature can be in the form of quantitative, qualitative studies, perspective journals and general scientific articles.

Diagram 1. The article selection process
# RESULTS AND DISCUSSION

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<tr>
<th>No</th>
<th>Author and year</th>
<th>Title</th>
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<th>Result</th>
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<tbody>
<tr>
<td>1.</td>
<td>Chinazzi et al. 2020</td>
<td>The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak</td>
<td>Global metapopulation disease transmission model</td>
<td>The government of Wuhan since the outbreak of the 19th pandemic took steps to prohibit travel to and from Wuhan since February 23, 2020, even the Chinese government began to announce a ban on flights to and from China in early February 2020. The results showed that the method taken with the restrictions travel is effective enough to suppress the spread of covid 19 from one country to another, but this method is said to not be enforced for a long time because it can affect the stability of the State. In addition, mitigation strategies to prevent the spread of covid 19 also need to be applied other ways such as early detection of patients, washing hands, self-isolation and independent quarantine to make it more effective as a way to prevent the spread of covid-19.</td>
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<td>2.</td>
<td>Cowling &amp; Aiello 2020</td>
<td>Public Health Measures to Slow Community Spread of Coronavirus Disease 2019</td>
<td>Survey Perspective</td>
<td>The use of nonpharmaceutical interventions (NPIs) which includes school closures, bans on mass gatherings in public places, isolation of the sick, the use of masks, is quite effective in controlling the spread of influenza virus pandemic outbreaks in US society in 1918. This method is widely used again to deal with outbreaks the corona virus pandemic in the community. At this time until March 2020, NPIs have been widely used to prevent local transmission in many Asian countries such as China, Hong Kong, Singapore, and Taiwan.</td>
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<td>3.</td>
<td>Lin et al. 2020</td>
<td>Google searches for the keywords of “wash hands” predict the speed of national spread of COVID-19 outbreak among 21 countries</td>
<td>Hypothesis study</td>
<td>Since the covid-19 outbreak is called a pandemic outbreak throughout the world, in February to March many new cases have been reported in several countries in Asia and Europe. The government takes many policies to prevent transmission of diseases such as the application of social distancing, the use of masks, and the adoption of clean and healthy lifestyles which among them apply the act of washing hands. This raises concerns in the community so that people try to get more information in the online search portal &quot;Google&quot;. Hand washing is one of the search keywords that are widely used by people in 21 countries. Through the widespread use of online search portals to look for information related to preventing the spread of covid-19, it has increasingly increased public awareness of clean living in order to prevent the spread of covid-19. This is correlated with the incidence of covid in various countries, the more people accessing information sources, the more awareness increases community towards hand hygiene, so that more and more people are implementing prevention of covid-19 transmission.</td>
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The handling of covid pandemic 19 outbreaks has been sought by governments around the world. One of the things the Indian government has done is by screening about awareness of the risks and prevention of transmission from covid 19 outbreaks that occur using the assessment form "the RIKA’s COVID 19". This screening is considered effective enough to find out how far the community’s knowledge of risk and how to prevent covid-19 transmission and can be a determinant of government steps to prepare disaster prevention and mitigation strategies in accordance with community knowledge and needs. In addition, this method is a material for community self-evaluation to be able to increase awareness of the risks of the covid-19.

After covid 19 cases have been increasing in various countries in the world, the Spanish government has adopted disaster mitigation measures in the form of social distancing such as other countries since March 14, 2020 or 13 days after the increase in the number of cases occurred. Through the results of this study it can be seen that the covid 19 incidence rate curve in China, South Korea, Italy and Spain based on the main mitigation strategies that have been carried out from each of these countries. After looking at the incidence rate curve, South Korea is a country that has a sloping curve when compared to the other three countries. Researchers have an opinion that due to lack of strict implementation of policies by the people in Spain. In addition, in Spain there is no massive early screening of the people.

Many steps to prevent the spread have been carried out by the Indonesian government. Like one of them implementing social distancing and educating information to the public about the prevention of the covid-19 virus transmission as recommended by WHO. There are also several regions that have established policies to close access in and out of and to the regions to prevent the spread of disease between cities. All of these steps are appropriate and have been widely applied in various other countries. The results of the analysis of the actions taken by several local governments are quite fast, but it is unfortunate that the central government is considered slow because there is no national command, when WHO has established the Corona Virus as a pandemic. In addition, in the absence of a national command, local governments are confused because they also need security and safety guarantees for all citizens.

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<th>4.</th>
<th>Chatterjee et al. 2020</th>
<th>COVID-19 Risk Assessment Tool: Dual application of risk communication and risk governance</th>
<th>Application trial study</th>
<th>The handling of covid pandemic 19 outbreaks has been sought by governments around the world. One of the things the Indian government has done is by screening about awareness of the risks and prevention of transmission from covid 19 outbreaks that occur using the assessment form &quot;the RIKA’s COVID 19&quot;. This screening is considered effective enough to find out how far the community’s knowledge of risk and how to prevent covid-19 transmission and can be a determinant of government steps to prepare disaster prevention and mitigation strategies in accordance with community knowledge and needs. In addition, this method is a material for community self-evaluation to be able to increase awareness of the risks of the covid-19.</th>
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<td>5.</td>
<td>Saez et al. 2020</td>
<td>Effectiveness of the measures to flatten the epidemic curve of COVID-19. The case of Spain</td>
<td>A time series design</td>
<td>After covid 19 cases have been increasing in various countries in the world, the Spanish government has adopted disaster mitigation measures in the form of social distancing such as other countries since March 14, 2020 or 13 days after the increase in the number of cases occurred. Through the results of this study it can be seen that the covid 19 incidence rate curve in China, South Korea, Italy and Spain based on the main mitigation strategies that have been carried out from each of these countries. After looking at the incidence rate curve, South Korea is a country that has a sloping curve when compared to the other three countries. Researchers have an opinion that due to lack of strict implementation of policies by the people in Spain. In addition, in Spain there is no massive early screening of the people.</td>
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<td>6.</td>
<td>Zahrotunnimah 2020</td>
<td>LangkahTaktis Pemerintah Daerah DalamPencegahan Penyebaran Virus Corona Covid-19 di Indonesia</td>
<td>Content analysis</td>
<td>Many steps to prevent the spread have been carried out by the Indonesian government. Like one of them implementing social distancing and educating information to the public about the prevention of the covid-19 virus transmission as recommended by WHO. There are also several regions that have established policies to close access in and out of and to the regions to prevent the spread of disease between cities. All of these steps are appropriate and have been widely applied in various other countries. The results of the analysis of the actions taken by several local governments are quite fast, but it is unfortunate that the central government is considered slow because there is no national command, when WHO has established the Corona Virus as a pandemic. In addition, in the absence of a national command, local governments are confused because they also need security and safety guarantees for all citizens.</td>
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China as the country that first discovered this virus and notified the media in the world, making it a country that has many views on how the management of transmission prevention by other countries to adopt mitigation prevention measures. Covid-19 was first spread in the city of Wuhan, China. The local government quickly took steps to ban travel to and from Wuhan on February 23, 2020, and even the Chinese government began announcing a ban on flights to and from China in early February 2020 (3). This method is considered effective enough to suppress the spread of co-19 from one country to another or from city to city in one country. However, this method needs to be supported by additional precautions such as early and massive detection of sufferers quickly, diligently washing hands, self-isolation and independent quarantine(8).

All of these prevention efforts can be carried out well if the community understands what the prevention steps are and also the discipline to implement them. Therefore, there needs to be a comprehensive socialization from the government to the community to be able to see the extent of their understanding. In India the government conducted an initial screening for awareness of the risks and prevention of transmission from the covid-19 outbreak that occurred using the assessment form "the RIKA's COVID-19" which began in mid-April. This screening is considered effective enough to find out how far the public's knowledge of risk and how to prevent co-19 transmission. This method is a way to determine the government's steps to prepare disaster prevention and mitigation strategies in accordance with the knowledge and needs of the community(10). Even so, health protocols that have been prepared by the government, such as recommendations for using masks, washing hands, or maintaining social distancing can also raise concerns in the community. People try to find out and try to get more information through the online search portal "Google". Washing hands is one of the keywords that many people search in 21 countries(9). This is correlated with the incidence of covid in various countries, the more people who access information sources, the more awareness of the community on hand hygiene and the more people who implement preventive measures.

Although all countries have tried their best to prevent covid-19 transmission by adopting the methods of other countries that have succeeded in overcoming covid-19 transmission, there are some countries where the positive incidence rate is still showing an increase every time. As in Spain, the statistical curve for positive events has not shown a gentle curve, in contrast to China and South Korea, even though the Spanish government has implemented prevention management for covid-19 transmission such as social restrictions, restrictions on traveling at home and abroad, and the diagnosis of patients as quickly as possible, since March 14, 2020 or 13 days after the increase in the number of cases that occurred(11). This also happened to Indonesia. In Indonesia itself, since a positive case has been confirmed, the local government and the government have begun to urge residents to implement social distancing and educate the public about information on preventing the transmission of the covid-19 virus such as the use of masks, hand washing, self-isolation through print and digital media. However, at the beginning when there were no positive cases, the Indonesian government seemed slow to prevent transmission even though WHO had stated that covid-19 was a pandemic outbreak so that many people were infected and had high mortality rates in Indonesia (Tempo 2020). In addition, according to Zahrotunnimah (2020)the absence of command from the central government to the regional government makes the regional government required to immediately take steps to handle the spread of co-19 in their respective regions. Even though the government has implemented co-19 prevention management, up to now the positive number is still increasing every day and even increasing by around 1000 people / day (covid.go.id 2020).
CONCLUSION

Various management efforts to handle the spread of covid-19 were carried out by each government in each country. From these various efforts, several countries succeeded in preventing the spread of covid-19 and reducing the positive number of covid in their countries. But not a few countries that have made prevention efforts still have not been successful to suppress its spread and make positive numbers continue to increase every day. In Spain, India and Indonesia as well as many other countries, the number of positive co-19 events is still increasing every day.

Basically, all efforts to deal with the spread of covid-19 are already good, but it will be effective if all those efforts are carried out together such as a disciplined community to conduct clean lifestyles, wash their hands diligently, use masks, and apply social distancing, and the government also carries out efforts to conduct massive and rapid screening of covid diagnosis and tighten the rules for health protocols that have been made by imposing sanctions if needed. When viewed from the references that have been reviewed, efforts that have proven to be effective in reducing the spread of covid are quickly responding to the government to educate its citizens to comply with health protocols, to close the area that is the center of the most widespread distribution and screening for diagnosis of massive diseases.

RECOMMENDATION

To reduce the spread of covid-19 disease, there needs to be a rapid emergency response from the government in the management of appropriate treatment in accordance with the conditions in the country. The basic effort that needs to be done is to conduct health education to break the chain of distribution while conducting an assessment of public health needs. In addition, the government can also learn how prevention management is carried out to break the chain of distribution from other countries.

REFERENCE


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