# Google Trends dan Tren Pencarian Informasi COVID-19 di Indonesia

# Putri Limilia<sup>1</sup>, Benazir Bona Pratamawaty<sup>2</sup>

<sup>1</sup>Universitas Padjadjaran, Jl. Raya Jatinangor KM 21,5, Jatinangor, Jawa Barat <sup>2</sup>Universitas Padjadjaran, Jl. Raya Jatinangor KM 21,5, Jatinangor, Jawa Barat \*Corresponding author, e-mail: p.limilia@unpad.ac.id

#### Abstract

WHO has declared COVID-19 as a pandemic due to its rapid increase in cases outside China. COVID-19 has also affected a growing number of countries. However, the Indonesia government responded to the declaration in a not-serious manner, which has generated uncertainty circumstance among its public. This circumstance has driven people to consume information as much as they are possible to consume. This study aims to map out the trend of information-seeking concerning COVID-19 in Indonesia using Google Trends and to compare it to the information available on Indonesia's Ministry of Health official website from January until March. This study was descriptive quantitative, which used Google Trends as data collection tools. The research found that information seeking concerning COVID-19 has been increasing since the end of January. Government statements were found as the trigger of the information-seeking activity escalation and also served as the reason behind different information-seeking trends each month.

Keywords: COVID-19; Google trends; Information seeking; Risk communication

### Abstrak

WHO telah menetapkan COVID-19 sebagai pandemi karena meningkatnya jumlah kasus terinfeksi virus yang sangat cepat di luar China dan telah menginfeksi sejumlah banyak negara. Pemerintah relatif santai dalam merespon kebijakan tersebut sehingga menimbulkan ketidakpastian dalam masyarakat. Ketidakpastian ini mendorong masyarakat mencari dan mengkonsumsi informasi sebanyak mungkin. Tujuan penelitian ini adalah untuk memetakan pencarian informasi COVID-19 pada bulan Januari-Maret 2020 melalui Google Trends serta melakukan komparasi dengan ketersedian informasi di situs Kementerian Kesehatan. Metode yang digunakan dalam penelitian ini adalah kuantitatif deskriptif dengan menggunakan Google Trends sebagai alat pengumpulan data. Hasil penelitian menunjukkan bahwa pencarian informasi COVID-19 pada umumnya disebabkan oleh pernyataan-pernyataan pemerintah yang juga merupakan penyebab adanya perbedaan tren pencarian pada setiap bulannya.

Kata Kunci: COVID-19; Google trends; Pencarian informasi; Komunikasi risiko

# Introduction

Coronavirus disease 2019 (COVID-19) is one of the infectious diseases that have been pandemic almost all over the world. The first case of COVID-19 was found in Wuhan at the end of November 2019. After that, this case spread quickly not only in China but also globally. At the end of January 2020, there were around 10,000 confirmed cases of COVID-19 scattered throughout the world (Google, 2020).

World Health Organization (WHO) declared COVID-19 as a pandemic on March 11, 2020. This declaration was based on the fact that coronavirus is a new virus that is easily transmitted between people throughout the world. The COVID-19 vaccine has also not been discovered so that its spread cannot be prevented and stopped. This situation causes anxiety and uncertainty throughout the world. Each country has different responses and policies in dealing with this outbreak.

Taiwan, which is one of the closest countries to China, chose to lockdown their country when the number of confirmed cases rose. The Taiwanese government is also pro-active by providing masks in advance and being transparent to the public regarding COVID-19 information (Kurnia, 2020). Transparency is essential factor in dealing with a crisis because it can reduce the uncertainty faced by the community (Lee, 2009). Transparency can also provide information to the public regarding the difficulties and dangers we are facing. On the other hand, transparency is also the key for the government to gain public trust in times of crisis (Harrison, 2020).

Vietnam is also one of the countries in Southeast Asia that succeeds in combating COVID-19. The Vietnamese government made series of efforts to overcome COVID-19, including mass checking and delivering a clear message to the public (Wirawan, 2020). These efforts are proven to be effective in preventing the spread of the virus in a short time. The handling of COVID-19 in Vietnam proves that proper communication with messages that prioritizes transparency and honesty is essential and crucial factor when facing a crisis. Therefore, a wise and precise communication strategy is needed by the government in times of crisis.

Unfortunately, something different was done by the Indonesian government in the efforts to deal with and overcome the COVID-19 outbreak. From the beginning, the government did not take this pandemic seriously and tended to simplify this virus by issuing a series of incorrect statements. For example, the government suggested to intensify the promotion of the tourism sector as well as to remain calm and relax during this pandemic and argued that Indonesia is immune from COVID-19 (Almuttaqi, 2020; Mas'udi & Winanti, 2020).

The chaos was exacerbated by messages from government officials who were inconsistent with each other in responding to the spread of COVID-19. The inconsistency can also be seen from the policies of central and regional governments that did not go hand-in-hand regarding lockdown. Some local governments enacted a policy to close their regions, but the central government opposed the policy. The central government claimed that the lockdown policy was their authorization (Almuttaqi, 2020).

A government that stammers in communication during a pandemic can threaten its success in dealing with COVID-19. The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) have published communication guidelines in times of crisis, especially in the context of health, which is called risk communication. Risk communication is the process of exchanging information, advice, and opinions between experts, community leaders, government, and communities at risk

and is an integral part of every emergency (World Health Organization, 2017).

Several points must be considered in creating effective risk communication such as information that can help people make decisions, information that is clear and easy to understand, effective media utilization, information that is regularly updated, and others (Holmes et al., 2009). Effective risk communication also should be carried out before and during the crisis (Reynolds & Seeger, 2005). This research will use several concepts in risk communication to analyze government information or messages on the Ministry of Health's website before and during the crisis.

Another problem faced by the government is the lack of information disclosure related to COVID-19, especially at the beginning of the pandemic (Mas'udi & Winanti, 2020; Yunus & Rezki, 2020). The government argued that the disclosure of information could cause panic, which would have an impact on the economy. Instead of being protective, the policies taken by the government created uncertainty and panic in the community.

Communities are trying to reduce this uncertain situation by searching for COVID-19 information through various information sources, such as mass media and the internet. Indonesian Broadcasting Commission (KPI) revealed that the number of television viewers increased by 50% during the pandemic because people made television as the primary medium to get information on COVID-19 (Utama, 2020). This also happened in several other countries, such as the United Kingdom and Australia. In the UK, people access BBC News more often during the pandemic (Ellis, 2020).

People also use the internet, especially social media, to find information related to COVID-19. In Indonesia, social media is the most widely accessed source of information besides online media and television (Iman, 2020). Access to trusted news pages has also increased in Australia (Harrison, 2020). People only choose reliable sources of information regarding COVID-19 to avoid misinformation and hoaxes.

In the digital age, the use of the internet to search for health information has been a common activity. People prefer to browse information regarding their physical condition on the internet rather than seeing a doctor. The same thing happened when COVID-19 attacked Indonesia. Public tried to find in-depth information about this virus in the Google search engine.

The activity of searching for health information is stored in Google's database. In some countries, the data is used to make observations and even predict a pandemic (Carneiro & Mylonakis, 2009; Fazeli Dehkordy et al., 2014; Mellon, 2013; Polgreen et al., 2008a). For example, Google search activity that used keywords related to influenza symptoms indicates that the disease is endemic in the community (Cook et al., 2010; Ginsberg et al., 2009; Johnson et al., 2004; Polgreen et al., 2008a).

This study uses the database of community search activities to map the trend of the COVID-19 information search from January to March 2020. This is important to obtain an overview of information needs in the initial phase of the crisis, which can later be used as recommendations for making messages right on the target.

This article also compares the search for information and the availability of the information on the government website https://www.kemkes.go.id/. This comparison is vital to map out the communication made by the government in the initial phase. It will help to figure out whether the messages delivered by the government has met the society's information needs or not. The results of this comparison can be served as an input for the government to formulate contents for the official website.

### Method

This research used descriptive quantitative method that aims to describe the frequency of keywords used on the Google search engine. In the era of big data, Google Trends has begun to be widely used as a research method in the fields of health, economics, and politics (Jun et al., 2018). This method is used to read the trend of information search in the community. However, the information search is segmented and cannot be generalized (Nuti et al., 2014). That is because the information search is only limited to people who have access to the internet (Mellon, 2013, 2014).

In the context of this research, information search is carried out by Indonesians who have internet access. These communities are not only limited to communities in Java but also outside Java. This can be seen from the search results, which show that searches for some keywords are not only limited to people in Java but also people outside Java. This means that information search on Google Trends is carried out by people throughout Indonesia with ownership of internet access as an initial prerequisite.

Research in the field of health is one of the pioneers in using Google Trends to map information searches related to health topics. For example, the search for the topic of "throat cancer" is high when news of new treatment technologies is discovered (Faoury et al., 2019). Several other health studies also use Google Trends to predict outbreaks of disease in an area (Eysenbach, 2011; Ginsberg et al., 2009; Polgreen et al., 2008b).

Google Trends is one of the products of Google Inc., which serves to present a keyword index used by internet users in information search activities within a specified period and specific geographical areas (Choi & Varian, 2012; Tijerina et al., 2019). The data of the search results are presented in the range of 0-100, with the peak point of the search will get a value of 100 (Choi & Varian, 2012; Faoury et al., 2019). This value is obtained by comparing the number of searches for certain keywords with the number of searches that exist on Google at a certain period (Choi & Varian, 2012). The value of zero does not mean that there are no searches related to these keywords. It only means that there is not enough data (Faoury et al., 2019).

There are two stages of researching by using Google Trends. Firstly, the researchers type the searched keywords in the "search term" column, and Google Trends will present the results in several categories, namely interest over time, interest by subregion, related topics, and related queries (Table 1). This data, on the second stage, will be processed for research purposes. Data used in this study are data in the categories of interest over time, interest by subregion, and related queries.

No	Term		Definition
1	Interest time	over	The number that appears shows the relative number to the highest point on the chart of search interest in a particular time and region. The peak popularity of search keywords is indicated by a value of 100, a value of 50 is for keywords that have a popularity of half of the peak value, while a value of 0 is given for keywords that do not have enough data or the least data volume
2	Interest subregion	by	To see the regions or locations where the keywords you entered are most popular within a certain period. The values are calculated by using a scale of 0 to 100 in which 100 indicates the location where the keyword is the most popular in the total search, 50 is for locations where the keyword's popularity is only half of the location which is

Table 1. Terms in Google Trends (source: trends.google.com)

		worth 100, while 0 indicates the location that does not have enough
		data for the keyword entered.
3	Related queries	Users who search for these keywords also search for other keywords
		that can be sorted by the following metrics:
		* <b>Top</b> - The most popular query. Values are given based on a relative
		scale where the queries that are most frequently searched for are
		given a value of 100, a value of 50 is for queries whose search
		frequency is half of the most popular queries, and so on.
		* <b>Rising</b> - Indicates the query with the highest search frequency since
		the previous period. "Breakout" is a sign for a result that has a
		tremendous increase, most likely because this query is new and has
		few (if any) previous searches.

This research examined the use of three keywords that are used the most by the government and the media in conveying information related to the COVID-19 case, namely "Corona," "Coronavirus," and "COVID-19". These three keywords are also used interchangeably on the official government website, which continuously provides information regarding Corona from January to date. The websites are the official website of the Ministry of Communication and Information (https://www.kominfo.go.id/) and the official website of the Ministry of Health (https://www.kemkes.go.id/).

Three keywords used in this research were "Corona," "Coronavirus," and "COVID-19". The researchers used quotation marks when referring to keywords and did not use quotes when referring to viruses or diseases. For example, if the researchers write "COVID-19", it means that the researchers are explaining the keywords; if the researchers write COVID-19, the researchers are refer to an ongoing pandemic.

The research was validated in two ways, namely by content validity (Mellon, 2013) and comparison with external datasets (Nuti et al., 2014). Content validity was carried out by comparing these keywords with words that were in "related queries" of Google's search engine. If these keywords are the same as the words in the "related queries" category on the Google search engine, the result data are valid. The study also carried out the validity test by comparing search keywords on Google's search engine with news topics on two online news portals (https://www.okezone.com/ and https://www.tribunnews.com/) on the same day. Those two media were chosen because, according to Alexa, they are the two most frequently accessed online news portals in Indonesia (Alexa, 2020).

The result of the content validity test showed that the words on "related queries" in Google search engines were the same and related to the keywords used so that the data used was valid. The result of the validity test with an external dataset also showed the same thing. The search trend on Google at a particular time was also accompanied by massive news in the mass media, especially in Okezone and Tribunnews.

#### **Results and Discussion**

The trend of information seeking about Coronavirus in Indonesia has begun since last January and escalated significantly until March 2020. This research used three keywords to map the information search trend about Coronavirus in Indonesia, namely "corona," "coronavirus," and "COVID-19" during a period from January to March 2020.

The keyword "corona" was the only keyword in which its frequency always increased since the early year. In the meantime, the use of keyword "coronavirus" was

fluctuated both in February and March 2020. Different from those two keywords, the keyword "COVID-19" was not widely used in January and February 2020, but it rose slightly in March 2020 after WHO officially released the name of the coronavirus as COVID-19 in February 2020 (Figure 1).



Figure 1. The information search trend about Coronavirus in Indonesia (January-March 2020)

According to the data of information seeking based on geographical area, each region in Indonesia typed different keywords to find information about COVID-19 (Figure 2). Most regions in Indonesia used the keyword "corona" more frequently, and provinces like West Java, East Java, Aceh, and Riau were the top list of the provinces that used the keyword.



Figure 2. The frequency of keyword use per area

West Java's and East Java's people typed the keyword "corona" frequently because of the numerous news concerning foreign workers from China who settled in the two provinces and be suspected COVID-19. Consequently, the people were encouraged to search for information profoundly about COVID-19. Meanwhile, the people of Aceh and Riau used keyword "corona" to find the information about the repatriation of university students from Wuhan.

Compared to other keywords, the keyword "corona," overall, was the most widely used in all islands in Indonesia. It means that the society was more familiar with the word "corona" to refer to COVID-19 than to the official term introduced by WHO. However, the government, particularly the Ministry of Health of Indonesia Republic, used the term "COVID-19" more often in social media accounts than the word "Corona."

The government should use more familiar terms for the public, especially if it is a new term. For example, in January, the government did not use a consistent term in referring to COVID-19. There were some words used by the government, such as Corona, Coronavirus, Korona, and Virus Corona. This inconsistency in using the term could confuse society and inhibit the effectiveness of communication. Meanwhile, the effectiveness of communication can only be achieved when there is correlation and similarity between what is thought by the sender and receiver of the message in the communication process holds. Therefore, a text or term must be used consistently because the first and foremost requirement of effective communication is the use of a consistent set of messages (Winbow, 2002).

The search which used the keyword "Coronavirus" was used the most by the public in Java, in which West Java and East Java were still the highest. Meanwhile, in Sulawesi, Maluku, and Papua Island, mostly, people used the keyword "COVID-19," compared to the other areas.

Generally, the chronological data readings showed that the keyword "corona" was still the most widely used keyword from early January to March 2020. On January 21, 2020, the use of keyword "corona" increased and peaked on January 27, 2020. This escalation was caused by a statement from the Minister of Health, Terawan, on social media that recommended that the public be calm and relaxed amid the COVID-19 threat (Warta Ekonomi, 2020).

Another possible factor that caused the high search frequency of keyword "corona" during that period was the spread of information concerning two people of Bandung who were suspected COVID-19 (Adyatama, 2020). Although the government immediately refuted that information as a hoax, the refutation was not directly stated by the authoritative and credible public official as a communicator in the time of crisis, which was Terawan as the Minister of Health. The refutation, indeed, was uttered by a president's special staff in social affairs who did not have the authority to handle COVID-19 (Adyatama, 2020).

The delivery of noteworthy information through a public official with inadequate credibility, in the context of handling COVID-19, indirectly degraded the degree of people's trust toward the government's capability and credibility in handling this pandemic. The public needs a visual symbol that symbolizes the government's credibility by presenting high-qualified government officials, which are accompanied by an expert in front of the public when they are delivering crucial information in the time of crisis (Harrison, 2020). Moreover, there is no clarification of information toward hoaxes on the official website of the Ministry of Health. At that time, the website only

195

informed the basic knowledge about COVID-19.

In January, the use of keyword "corona" to fulfill the basic information necessity about the virus, such as the meaning or definition of "corona," was noted. Some sentences concerning the virus were searched like "apa itu corona" (what is corona?) or "corona adalah" (corona is). This search is reasonable because, in that time, the word "corona" was a new term in society, so that they tried to find and consume the information as a part of self-education (Bento et al., 2020). The other identified searches were "ciri-ciri corona" (characteristic of the corona) or "gejala corona" (symptoms of the corona), which indicate that the public began to self-introspect on the possibility of being suspected COVID-19 by knowing the symptoms. Besides, other searches use the word "Indonesia" like "Indonesia corona," "corona virus Indonesia," "apakah virus corona sudah masuk Indonesia" (has coronavirus entered to Indonesia?), "virus corona masuk Indonesia" (coronavirus gets in Indonesia), "suspect virus corona di Indonesia" (suspected coronavirus in Indonesia), and others. Indonesian people used those words to verify whether the coronavirus has entered Indonesia.

There are two implications from the search for using the keyword "virus corona sudah masuk Indonesia" (coronavirus has entered Indonesia). Firstly, Indonesian did not trust the government, which claimed that COVID-19 would not come to Indonesia. This distrust appeared amid international news, which continuously found positive cases, including in some southeast Asian countries. Secondly, the public was haunted by worries and wanted to ensure whether the coronavirus had entered and spread in Indonesia.

However, the government was less precise in responding the society's worries. One of the examples is the statement of President Jokowi, which ensured that the coronavirus had not been detected in Indonesia (Figure 3). The government also appealed to the people to stay calm, relax, and eat sufficiently (Almuttaqi, 2020). The blunder statements of government were exacerbated by the unavailability of information transparency about COVID-19 (Yunus and Rezki, 2020). Meanwhile, still in January, the official website of the Ministry of Health, kemenkes.go.id, only published news about COVID-19 suspect, which was then clarified negative without proceeding the report.



Figure 1. The search result of the keyword "virus corona masuk indonesia" (coronavirus comes in Indonesia) in January 2020

Simultaneously, the use of keyword "coronavirus" rose gradually and hit the peak on January 26, 2020. This trend was not far different from the use of keyword "corona" because those two words were used interchangeably. This is probably due to the absence of an official term to refer to COVID-19, so that the public, media, and government often used "corona" and "coronavirus" interchangeably to refer to the same thing. The keyword "coronavirus" is mostly used to seek information concerning the definition of coronavirus (with sentences like "corona virus adalah" and "apa itu coronavirus"), its symptoms, coronavirus in Indonesia, and others. The related queries which were used were similar to the search that use the term "corona." However, there were some related queries that differ with the search that used the word "corona" like "peta coronavirus" (coronavirus map), "SARS," "update," and "Bali." Therefore, the related queries of keyword "coronavirus" were more specific than the use of keyword "corona" which still searched for general information. This showed the different characteristics of society who used the keywords "corona" and "coronavirus." A group of people who used the keyword "coronavirus" can be considered to have preknowledge with a higher level of education and knowledge because they were able to use relevant keywords to search more specific information, such as COVID-19 distribution maps, the latest updates, and the relevance between COVID-19 and SARS. On the other hand, the keyword "COVID-19" was never used during January because the word was first introduced and used officially on February 11, 2020.

In February, the data reported the pattern change in COVID-19 information seeking. The society who searched by using the keyword "corona" began to find out more specific information, such as the patients and the latest update of the COVID-19 case in Indonesia. It differs from the search in January, which was more general, like the definition and the symptoms. This condition indicates that society had begun to realize the presence of COVID-19 and responded to it by seeking information about what they can and should do in facing this crisis (Bento et al., 2020).

The pattern change of the search also happened in the related queries from the word "Indonesia Corona." While in January, the society used the keyword "Indonesia Corona" to ensure whether the COVID-19 case has been found in Indonesia, in February, they used the keyword to find out regarding how immune Indonesia to the coronavirus. This can be seen from the information search using the keyword "Indonesia kebal Corona" (Indonesia is immune to the Corona). This search was once again caused by the statement of the Minister of Health, who said that a good immunity and an intense praying would prevent the coronavirus from entering Indonesia (Liputan6, 2020). On the contrary, at the same time, some southeast Asian countries had reported positive cases of COVID-19.

A statement from the Minister of Health, Terawan, during the early stage of the pandemic was not appropriate because it tended to lead the audiences to take the wrong direction. The result of the search in Google by using the keyword "Indonesia kebal Corona" (Indonesia is immune to the Corona) showed the information of the reasons why Indonesia could be immune to the coronavirus. Some media published this information by quoting an interviewee with an expert, namely Prof. Chairul A. Nidom from Professor Nidom Foundation (PNF) (Tempo, 2020). This expert is a lecturer and researcher in Universitas Airlangga. His background certainly justified his credibility. Furthermore, his credibility was also supported by a post from the Governor of East Java in her Instagram official account about a discovery of COVID-19 medicine from Prof. Nidom. Indeed, the background of the interviewee as an academician strengthens

his credibility. However, no research has proved that Indonesia can be immune from the coronavirus. This information is hazardous because it tends to mislead the public. This is because society tends to believe information from a legitimate institution (Seeger, 2020; Sutton et al., 2018).

The next related queries, which were mostly used in February 2020, were "korban corona" (victim of the corona) or "korban virus corona" (victim of coronavirus). These keywords were used to find the number of COVID-19 victims. In this phase, the public had begun to search for how dangerous this virus is by checking the number of world victims. The use of these keywords peaked on February 13, 2020. At the time, the media busily reported the mortality cases caused by COVID-19 in Wuhan, which has increased twice (Saputra, 2020).

Consuming the information about the number of victims certainly creates an effect that contradicted the government's suggestion for staying calm. The number of victims, which rose continually and significantly, evoked restlessness and worries amid the society and made them doubting the government's efforts in freeing Indonesia from Corona. This doubt was aggravated by the statements of international institutions, like WHO, or Harvard researchers who stated that the chance was tiny that COVID-19 had not entered to Indonesia (Rahayu, 2020).

In February, the society began to follow the development of COVID-19, as seen from the numerous searches with keywords "update terbaru Corona" (the latest update of Corona), "Corona terbaru" (the latest Corona), "Corona hari ini" (Corona todays), and others. The search result from those keywords provided information on the latest number of COVID-19 victims daily all around the world. It implies that the public had considered COVID-19 as one of the significant issues so that they want to get the latest information about COVID-19. In other words, COVID-19 had successfully become a public agenda.

In addition, the keyword "coronavirus" was differently used in February 2020. There were some new related queries used by the Indonesia people, namely "Korea Coronavirus," "Singapore Coronavirus," "Coronavirus Japan," "live coronavirus," and others. These related queries were different from the use of the keyword "corona." The people who used the keyword "coronavirus" showed a better skill in searching for information than the society who used the keyword "corona." The users of the keyword "coronavirus" searched for more specific information, such as the cases of COVID-19 in Singapore, Korea, and Japan. These three countries were known as countries that were affected by the COVID-19 in the first wave. The keyword "Singapore coronavirus" was mostly used by the society in Riau Province during February 2020. The search reached the peak when the Prime Minister of Singapore announced the country was in the "orange" status because the amount of the positive cases increased regularly. The keyword "Korean coronavirus" was also sought after when the South Korean government announced that the country was in critical condition. Furthermore, the keyword "Japan coronavirus" was sought after the spread of information about the Japanese citizen who was suspected positive after having a vacation in Bali.

The keyword "live coronavirus" was used to check COVID-19 positive patients who have recovered. The related query, which was often used, was "coronavirus live update" and mostly used by the internet users in Bali. However, the search result in Google or official websites of the government did not inform the number of recovered patients.

In early March 2020, the government announced the first positive case of COVID-

19 in Indonesia. This finding changed the pattern of information seeking about COVID-19 in terms of the aspect of frequency or the use of related queries. In the context of the keyword "corona," some keywords, namely "gejala corona" (corona symptoms), "Indonesia corona," and "update corona." experienced significant escalations in the number of the user. This finding is in line with the research conducted in the United States lately (Bento et al., 2020).

The keyword "gejala corona" (corona symptoms) or "ciri-ciri corona" (characteristics of the corona) rose significantly compared to the previous month. The most frequently time spent by the public to find the information was on March 2, 15, 16, and 23, 2020. The high number of that information seeking was stimulated by the statements of the governmental public officials. For example, on March 2, 2020, the government announced the first positive case of COVID-19. It encouraged Indonesian people to seek information about COVID-19 as much as possible, and one of the most sought was information about the symptoms of COVID-19. This information is essential for them to minimize the uncertainty amid the pandemic, which has not found exactly the way to cure it (Bento et al., 2020; Reynolds & Seeger, 2005).

Furthermore, to appease their uncertainty, the public kept following the development of COVID-19 news. This can be checked from the frequency of the search keyword "update corona" which escalated gradually in early March 2020, reached the peak on March 27, 2020, and then decreased again. The appealing finding concerning the use of this keyword is that the society typed specific keywords like "update corona 2 maret" or "update corona 27 maret" (corona updates on March 2 or corona updates on March 27). This indicates that the public observed the daily accretion of the number of COVID-19 positive patients.

There are two new related queries in March 2020, and those are "obat" (medicine) and "Jakarta". The search "obat Corona" (Corona medicine) fluctuated with the peaks of searches on March 2, 16, and 22, 2020. Each date had different motives. On March 2 2020, the keyword "obat corona" was mostly used because the government announced the first positive case of COVID-19 in Indonesia. In this context, the society used the keyword "obat corona" as a form of anticipation toward the COVID-19 transmission. The other dates, March 16 and 22, 2020, the keyword "obat corona" were stimulated by the government's statement that informed that they had ordered the Corona medicine from China.

The search result on the keyword "obat corona" in Google was quite heterogeneous, with the sources of information primarily came from media and unverified sites. The information from unverified sites endangers the society because its validity has not been verified. Society tends to believe the information from any media, either conventional media or digital media, about the issue outside their knowledge and experience. Additionally, society is prone to regard the messages which are suitable for their belief and preference (Chomsky & Barclay, 2010). Therefore, the information from unverified sites can produce a mistaken belief and perception about the medicine of COVID-19. It is the government's task and role to control the distribution of unverified information. However, the government, particularly the Ministry of Health, did not verify that unverified information. In March 2020, the official website of the Ministry of Health only published two news concerning COVID-19 medicine. This condition was inversely proportional to the search result in Google.

Although this issue of verifying untrusted information was handled by the Ministry of Communication and Information (Kemkominfo), the verification result was

published on https://www.kominfo.go.id/, the official website of the Ministry of Communication and Information, rather than in https://www.kemkes.go.id/, the official website of the Ministry of Health. This condition indicates an ineffective overlapping information flow arrangements in overcoming COVID-19. In the communication of crisis, communication should be channeled from one source and symbolized by one person as the representation and visualization of the government to prevent confusion among society. The selection and appointment of this primary communicator are notably crucial to accelerate the end of a crisis. For example, in China and Singapore, all government's public communication agenda concerning COVID-19 are only delivered by the prime minister.

That ideal is in opposition to the Indonesia government's public communication during this crisis in which the government seems to be not unified. Each ministry institution published its statement about COVID-19 based on its interests. Ideally, after the establishment of the task force, only the task force's chief is entitled to deliver information about COVID-19. This unideal condition used to happen in the United States of America when this country was attacked by Zika epidemic. At the time, not only the government that led the communication but also politicians, which eventually produced distortion of messages (Hagen et al., 2018).

Furthermore, the keyword "coronavirus" was still used in March 2020. The public used this keyword to find out information about the symptoms, distribution maps, coronavirus in Indonesia, update coronavirus, and coronavirus in Italy. The distribution map of the search for COVID-19 in March 2020 was different from the previous month. In March, specific words were used more frequently like "world meters coronavirus map" and "john hopkins coronavirus map." These related queries confirm the findings of this study that the users of the keyword "coronavirus" have a different demographic background than the users of the keyword "corona." One of the examples is the use of the keyword "Cornavirus Italy," which aimed to understand the development of COVID-19 in Italy. This keyword is not found in the use of the keyword "Corona."

After the announcement of the name 'COVID-19' by WHO, the keyword "COVID-19 started to be used by many people when they browsed in Google. The frequency of the search began to rise in March when the government announced the positive case and used that terminology consistently to refer to the disease caused by the novel coronavirus. There are some related queries of the keyword "COVID-19", namely "apa itu COVID-19" (what is COVID-19), "COVID-19 adalah" (COVID-19 is), "arti COVID-19" (meaning of COVID-19), and others. These related queries illustrate that the public still did not understand the meaning of COVID-19. This condition is reasonable because the use of this terminology has just emerged in March 2020. The government and media were the institutions that socialize the terminology for the first time, which was then adopted by various elements of society until now, i.e., in the field of education.

The public also typed the other related queries like "penyebab COVID-19" (causes of COVID-19), "pencegahan COVID-19" (prevention of COVID-19), dan "cara mencegah COVID-19" (how to prevent COVID-19) when they used the keyword "COVID-19". The use of these related queries demonstrated that the public has been more aware of being actively involved in preventing COVID-19 transmission. The society began to participate by finding out the relevant information in advance. At the same time, the government has also provided the needed information on its official website, so that anyone could access it.

After the announcement of the first confirmed case of COVID-19 in Indonesia, the government began to improve public communication. It began with the formation of the Task Force for the Acceleration of COVID-19 Handling on March 13, 2020. The Task Force has a responsibility to coordinate activities among relevant government agencies in dealing with the impacts of COVID-19. The Task Force also represents the government in providing information about COVID-19. In other words, government risk communication was carried out by the Task Force for the Acceleration of COVID-19 Handling.

The World Health Organization (WHO) says that risk communication is an essential part of overcoming pandemic periods (World Health Organization, 2017). Ideally, risk communication provides information that can help people make the right decisions for themselves. For example, in the early days of the pandemic, the government stated that it was not necessary to wear a mask because it was considered ineffective in preventing the spread of COVID-19. However, when the number of infected people increased, the government announced a new statement that the citizens must wear masks when going outside. This was very confusing for the citizens, which in turn led to the masks scarcity on the market. This condition hindered the effectiveness of risk communication.

Another very confusing condition is when the government did not give a firm policy regarding the prohibition of going home for the Eid celebrations this year. At first, the government prohibited the citizens from going home and setting a rule that mass leave is rescheduled to the end of the year. However, the policy contradicts President Jokowi's statement, which distinguished between "back to hometown" and "going home." As a result, many people were confused and made inappropriate decisions by "going back to hometown." Lee showed in his research that the inconsistency as made by the Indonesian government is one of the factors that can inhibit the effectiveness of risk communication (Lee, 2009).

People who violated the rules of the prohibition of going home were also caused by the government's message, which did not simply explain the negative impact of going home and the positive impact of not going home. So far, the government has only informed that if the community goes home, it could transmit COVID-19 to the loved ones in their hometown. This message was certainly less effective for people who felt they have no symptoms. This is because they believed they did not carry the disease and would not spread it in their hometown. The government should package the ban on going home by giving straightforward explanations about the impact of going home and using narratives that contain threats. This strategy is considered effective for creating effective risk communication (Reynolds & Seeger, 2005).

Until this article was written, the situation showed that the chance for Indonesian government risk communication to fail is higher if the government's attitude, which was more concerned with the economy rather than the safety of the people, continues. Moreover, the WHO has forbid to use Herd Immunity as the strategy to overcome COVID-19. Hong Kong also did the same strategy when facing SARS. The government urged people not to wear masks so that tourists are not afraid to visit Hong Kong. This policy resulted in a high mortality rate due to the SARS virus and led to accusations by the public and local media about how incompetent the Hong Kong government was in dealing with the crisis (Lee, 2009). The crisis communication that is being carried out by the Indonesian government at the moment will only ultimately generate antipathy attitude of the society towards the government, which is considered to be more

economic oriented than the safety of its society lives.

Another chance for the failure of the Indonesian government crisis communication is the inconsistency of policy and information between the central government and regional governments in dealing with COVID-19. The most obvious example is related to the policy of handling COVID-19 victims and the implementation of the Large-Scale Social Restriction (PSBB) policy.

## Conclusion

The public and governments differently responded when COVID-19 had been declared as a global pandemic and a national disaster. This study has examined public response through the COVID-19 information search on Google Trends and government response through the Ministry of Health website.

The COVID-19 information search trend began in late January 2020 by using two keywords, namely "Corona" and "Coronavirus." The frequency of searches increased significantly after the Minister of Health Terawan urged the public to remain calm and relaxed amidst the threat of COVID-19. At that time, many people were looking for necessary information related to COVID-19, such as "what is corona" and "symptoms of corona" because this virus is new, and they did not have the knowledge and experience in dealing with it. In January, people also searched "whether corona has entered Indonesia." This search was driven by public distrust of the government, which stated COVID-19 would not be detected in Indonesia while at the same time, WHO said it should have found positive cases in Indonesia.

In February, the COVID-19 information search began to change. The public began to look for information related to victims, the latest updates, and the COVID-19 drug. This change of information search indicates that people need more specific information about COVID-19 because they already had fundamental knowledge from previous searches. An interesting finding in February is the emergence of irrelevant and incorrect information that circulated widely in public. For example, information related to COVID-19 drugs that have been discovered and Indonesia claimed to be immune from the coronavirus. The two pieces of information were not proven right as of this writing.

In March, the trend of information search also changed, along with the discovery of the first two positive cases in Indonesia. The public was looking for more information related to "what is corona" and "the symptoms of COVID-19," and the frequency of the searches increased significantly. This month, the public is also looking for more information related to the COVID-19 drugs and the COVID-19 case in Jakarta. An interesting finding in March is that the public had made COVID-19's information search a routine. This can be seen from the keywords used, such as "update corona March 22", "update corona March 27", and "update corona today."

The government responded to COVID-19 by giving a series of public statements about COVID-19 that contradicted with the principle of risk communication, including the statement by the Minister of Health, Terawan, in January. The government was also not transparent in conveying information and unable to provide a straightforward explanation of the real impacts and risks that must be faced by the community if affected by the COVID-19 outbreak.

However, in January, the Ministry of Health, through its official website, http://www.kemkes.go.id/, had also begun to provide information related to the origin of the virus and how it spreads and suggest to make a healthy living community

movement, which was appropriate information also met the needs of the community. Notwithstanding, this information indicates the inconsistency of messages on the website with messages delivered by public officials.

The risk communication carried out by the government in February has not experienced much change and improvement. The government insisted that COVID-19 would not enter Indonesia. Minister of Health, Terawan, also often gave inappropriate messages such as a suggestion to multiply prayers because praying can prevent COVID-19 from entering Indonesia. However, the Ministry of Health's website showed something different. This month, the Ministry of Health website provided updates on the global COVID-19 case, Indonesia's preparations for dealing with COVID-19, and the protocol and regulation of COVID-19 in Indonesia.

In March, the government began to fix its information communication regarding COVID-19. This was triggered by the discovery of the first two positive cases in Indonesia in early March. The improvement of government crisis communication began with the formation of the Task Force for the Acceleration of COVID-19 Handling as the only official representation of the government in conveying all information related to COVID-19.

The results of this study can serve as a foothold to conduct future research by exploring the inconsistencies of messages between the central government and regional governments as well as government communication channels in the times of crisis in the media in Indonesia by using quantitative methods and content analysis approaches. The future research will be able to provide a picture of government public communication direction and channel in times of crisis as lesson learned and object of study in the future.

### References

- Adyatama, E. (2020). Istana: Kabar 2 Orang Terjangkit Virus Corona di Bandung Hoax
  Nasional Tempo.co. https://nasional.tempo.co/read/1300238/istana-kabar-2orang-terjangkit-virus-corona-di-bandung-hoax
- Alexa. (2020). Top Sites in Indonesia. https://www.alexa.com/topsites/countries/ID
- Almuttaqi, A. I. (2020). Kekacauan Respons terhadap COVID-19 di Indonesia. The Insigjts, 13.
- Bento, A. I., Nguyen, T., Wing, C., Lozano-Rojas, F., Ahn, Y.-Y., & Simon, K. (2020). Information Seeking Responses to News Of Local COVID-19 Cases: Evidence From Internet Search Data. http://arxiv.org/abs/2004.04591
- Carneiro, H. A., & Mylonakis, E. (2009). Google Trends: A Web-Based Tool for Real-Time Surveillance of Disease Outbreaks. *Clinical Infectious Diseases*, 49(10), 1557–1564. https://doi.org/10.1086/630200
- Choi, H., & Varian, H. (2012). Predicting the Present with Google Trends. *Economic Record*, 88(SUPPL.1), 2–9. https://doi.org/10.1111/j.1475-4932.2012.00809.x
- Chomsky, D., & Barclay, S. (2010). The Mass Media, Public Opinion, and Lesbian and Gay Rights. *Annual Review of Law and Social Science*, 6(1), 387–403. https://doi.org/10.1146/annurev-lawsocsci-102209-152825
- Cook, A. R., Chen, M. I. ., & Lin, R. T. P. (2010). Internet Search Limitations and Pandemic Influenza, Singapore. In *Clinical Infectious Diseases*, 50(5). https://doi.org/10.3201/eid1610.100840
- Ellis, M. (2020). Adults' Media Lives: COVID-19 Early-Lockdown Interviews. www.knowledgeagency.co.uk

- Eysenbach, G. (2011). Infodemiology and infoveillance: Tracking online health information and cyberbehavior for public health. *American Journal of Preventive Medicine*, 40(5 SUPPL. 2), S154–S158. https://doi.org/10.1016/j.amepre.2011.02.006
- Faoury, M., Upile, T., & Patel, N. (2019). Using Google Trends to understand information-seeking behaviour about throat cancer. *Journal of Laryngology and Otology*, 133(7), 610–614. https://doi.org/10.1017/S0022215119001348
- Fazeli Dehkordy, S., Carlos, R. C., Hall, K. S., & Dalton, V. K. (2014). Novel data sources for women's health research: Mapping breast screening online information seeking through google trends. Academic *Radiology*, 21(9), 1172–1176. https://doi.org/10.1016/j.acra.2014.05.005
- Ginsberg, J., Mohebbi, M. H., Patel, R. S., Brammer, L., Smolinski, M. S., & Brilliant, L. (2009). Detecting influenza epidemics using search engine query data. *Nature*, 457(7232), 1012–1014. https://doi.org/10.1038/nature07634
- Google. (2020). Coronavirus (COVID-19) Google News. https://news.google.com/covid19/map?hl=en-ID&gl=ID&ceid=ID:en
- Hagen, L., Scharf, R., Neely, S., & Keller, T. (2018, May 30). Government social media communications during Zika Health Crisis. ACM International Conference Proceeding Series. https://doi.org/10.1145/3209281.3209364
- Harrison, J. (2020). Covid and the media. Should we believe everything we hear or read?
- Holmes, B. J., Henrich, N., Hancock, S., & Lestou, V. (2009). Communicating with the public during health crises: Experts' experiences and opinions. *Journal of Risk Research*, 12(6), 793–807. https://doi.org/10.1080/13669870802648486
- Iman. (2020). Survei Kedaikopi: Mayoritas Masyarakat Indonesia Anggap Virus Corona Ancaman Serius. https://rri.co.id/nasional/796708/survei-kedaikopi-mayoritas-masyarakat-indonesia-anggap-virus-corona-ancaman-serius
- Johnson, H. A., Wagner, M. M., Hogan, W. R., Chapman, W., Olszewski, R. T., Dowling, J., & Barnas, G. (2004). Analysis of Web access logs for surveillance of influenza. Medinfo. *MEDINFO*, 11(Pt 2), 1202–1206.
- Jun, S. P., Yoo, H. S., & Choi, S. (2018). Ten years of research change using Google Trends: From the perspective of big data utilizations and applications. *Technological Forecasting and Social Change*, 130(February 2017), 69–87. https://doi.org/10.1016/j.techfore.2017.11.009
- Kurnia, T. (2020). Sempat Diabaikan WHO, Taiwan Dipuji Dunia karena Unggul Lawan Corona COVID-19 - Global Liputan6.com. https://www.liputan6.com/global/read/4230436/sempat-diabaikan-who-taiwandipuji-dunia-karena-unggul-lawan-corona-COVID-19
- Lee, K. (2009). How the Hong Kong government lost the public trust in SARS: Insights for government communication in a health crisis. *Public Relations Review*, 35(1), 74–76. https://doi.org/10.1016/j.pubrev.2008.06.003
- Liputan6. (2020). Menkes Ungkap Alasan Orang Indonesia Kebal Virus Corona News Liputan6.com. https://www.liputan6.com/news/read/4179878/menkes-ungkapalasan-orang-indonesia-kebal-virus-corona#
- Mas'udi, W., & Winanti, P. S. (Eds.). (2020). Tata Kelola Penanganan COVID-19 di Indonesia: Kajian Awal.
- Mellon, J. (2013). Where and when can we use google trends to measure issue salience?PS:PoliticalScience& Politics,46(2),280–290.

https://doi.org/10.1017/S1049096513000279

- Mellon, J. (2014). Internet Search Data and Issue Salience: The Properties of Google Trends as a Measure of Issue Salience. *Journal of Elections, Public Opinion and Parties, 24*(1), 45–72. https://doi.org/10.1080/17457289.2013.846346
- Nuti, S. V., Wayda, B., Ranasinghe, I., Wang, S., Dreyer, R. P., Chen, S. I., & Murugiah, K. (2014). The use of google trends in health care research: A systematic review. *PLoS ONE*, 9(10). https://doi.org/10.1371/journal.pone.0109583
- Polgreen, P. M., Chen, Y., Pennock, D. M., & Nelson, F. D. (2008a). Using Internet Searches for Influenza Surveillance. *Clinical Infectious Diseases*, 47(11), 1443– 1448. https://doi.org/10.1086/593098
- Polgreen, P. M., Chen, Y., Pennock, D. M., & Nelson, F. D. (2008b). Using Internet Searches for Influenza Surveillance. *Clinical Infectious Diseases*, 47(11), 1443– 1448. https://doi.org/10.1086/593098
- Rahayu, L. S. (2020). "Harvard" Sebut Corona Seharusnya Sudah Masuk RI, Menkes: Itu Menghina. https://news.detik.com/berita/d-4894445/harvard-sebut-coronaseharusnya-sudah-masuk-ri-menkes-itu-menghina
- Reynolds, B., & Seeger, M. W. (2005). Crisis and emergency risk communication as an integrative model. *Journal of Health Communication*, 10(1), 43–55. https://doi.org/10.1080/10810730590904571
- Saputra, E. Y. (2020). Provinsi Hubei Laporkan 242 Kematian Virus Corona dalam Satu Hari - Dunia Tempo.co. https://dunia.tempo.co/read/1307280/provinsi-hubeilaporkan-242-kematian-virus-corona-dalam-satu-hari
- Seeger, M. W. (2020). Crisis communication researcher shares 5 key principles that officials should use in coronavirus. https://theconversation.com/crisiscommunication-researcher-shares-5-key-principles-that-officials-should-use-incoronavirus-133046
- Sutton, J., Woods, C., & Vos, S. C. (2018). Willingness to click: Risk information seeking during imminent threats. *Journal of Contingencies and Crisis Management*, 26(2), 283–294. https://doi.org/10.1111/1468-5973.12197
- Tempo. (2020). Pakar Sebut Alasan Indonesia Kebal Virus Corona, Zika, dan MERS -Gaya Tempo.co. https://gaya.tempo.co/read/1313658/pakar-sebut-alasanindonesia-kebal-virus-corona-zika-dan-mers
- Tijerina, J. D., Morrison, S. D., Nolan, I. T., Vail, D. G., Nazerali, R., & Lee, G. K. (2019). Google Trends as a Tool for Evaluating Public Interest in Facial Cosmetic Procedures. *Aesthetic Surgery Journal*, 39(8), 908–918. https://doi.org/10.1093/asj/sjy267
- Utama, F. (2020). KPI: Lonjakan Pemirsa TV hingga 50%, TV Menjadi Garda Terdepan Informasi COVID-19 kepada Masyarakat - iNews Portal. https://www.inews.id/news/nasional/kpi-lonjakan-pemirsa-tv-hingga-50-tvmenjadi-garda-terdepan-informasi-COVID-19-kepada-masyarakat
- Warta Ekonomi. (2020). Virus Corona Makin Ganas, Menkes Bilang: Enjoy Aja! https://www.wartaekonomi.co.id/read268664/virus-corona-makin-ganas-menkesbilang-enjoy-aja
- Winbow, A. (2002). The importance of effective communication. International Seminar on Maritime English, 20–22.
- Wirawan, M. K. (2020). Reaksi Berlebihan Vietnam Terhadap Virus Corona yang Membuahkan Hasil Halaman all - Kompas.com.

https://www.kompas.com/global/read/2020/05/15/223917670/reaksi-berlebihan-vietnam-terhadap-virus-corona-yang-membuahkan-hasil?page=all

- World Health Organization. (2017). Communicating Risk in Public Health Emergencies. In A WHO guideline for emergency risk communication (ERC) policy and practice. https://apps.who.int/iris/bitstream/handle/10665/259807/9789241550208eng.pdf?sequence=2
- Yunus, N. R., & Rezki, A. (2020). Kebijakan Pemberlakuan Lock Down Sebagai Antisipasi Penyebaran Corona Virus COVID-19. SALAM: Jurnal Sosial Dan Budaya Syar-I, 7(3). https://doi.org/10.15408/sjsbs.v7i3.15083