

# COVID-19 emergency response in Southeast Asian region: A bibliographic analysis using VOSviewer software



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## ABSTRACT

**Introduction:** A Public Health Emergency of International Concern, the WHO designated the outbreak in China and surrounding countries in 2019. The Global board proclaimed public health emergency after research. The WHO encouraged states to step up their efforts before the instances grow. Six ASEAN members have confirmed early instances. WHO reports that the pandemic has reached all ten ASEAN countries. Unclear and inconsistent information and actions show Asia's delayed response to epidemics.

**Methods:** This study uses VOSviewer to investigate ASEAN policy responses to the COVID-19 outbreak. A bibliographic data model can handle several data types. Categories, topics, density, and publication date are common article metadata.

**Results:** Early decisions were taken without a plan to halt COVID-19 from spreading across Asia. Upon confirmation of the first case, national prevention and control measures were launched. Encouraging frequent hand washing, adequate mask usage, and other personal hygiene and sanitation habits were also addressed. Its nature leaves many data and information gaps. Major issues included preventing, detecting, and responding to disease outbreaks in public and medical contexts.

**Conclusion:** The regional health systems came into action to help national health programs. The ASEAN countries have all responded to the COVID-19 outbreak. In order to prepare for and manage the COVID-19 outbreak, a thorough investigation is required.

**Keywords:** COVID-19, emergency response, south-east Asia, VOSviewer, software.

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## INTRODUCTION

In December 2019, a new and serious infection due to a virus appeared. On the 30<sup>th</sup> of January 2020, the World Health Organization (WHO) responded to the expanding epidemic in China and neighboring countries by declaring it a Public Health Emergency of International Concern prompting the World Health Organization (WHO) to take immediate action.<sup>1</sup> This worldwide board designated it as a public health emergency after some investigation. WHO also published a public statement stating that we had to be prepared to prevent the spread of COVID-19 on both local and national levels by taking significant actions.<sup>2</sup> Through its Southeast Asian regional officials, the WHO urged governments to immediately ramp up all comprehensive efforts before the cases increase dramatically.<sup>3</sup> Six ASEAN member states have verified their initial instances before

this announcement. As of late March, the epidemic has spread to all ten ASEAN member states, according to WHO's announcement on March 11, 2020.<sup>4</sup>

Meanwhile, the Asian region was not responding to outbreaks quickly and seriously, as proved by the dissemination of inconsistent information and unclear decision.<sup>4</sup> Decisions were taken at the start of the year and passed without a strategy in place to prevent the spread of COVID-19 in the Asian region.<sup>3</sup>

National preventative and control procedures were undertaken to limit the outbreak when each ASEAN Member State verified its first case. These included public health measures for prevention, control, detection, and reaction. Public health recommendations were reminded to the public repeatedly such as adequate mask usage, encouraging regular hand washing, effective coughing and sneezing techniques, and other personal hygiene

and sanitation practices.<sup>5</sup> Numerous data and information gaps have been detected due to the nature of the novel coronavirus.<sup>6-8</sup> The most important questions were how to prevent, diagnose, and respond to the spread of the disease acceptably and effectively and how cases should be handled in community and medical health settings. Regional health systems were quickly mobilized to support national initiatives, respond to gaps, and facilitate rapid knowledge and information exchange.<sup>9</sup>

All countries have undertaken various measures, including studies to combat the COVID-19 epidemic in the ASEAN area.<sup>4</sup> As a result, a detailed study is required so that it may be utilized to assist researchers in preparing and observing the emergency response to the COVID-19 outbreak.

This study provides an overview of the policy response to the COVID-19 pandemic in the ASEAN region in terms

of the distribution of bibliographic maps and research publication trends on the web of science database using VOSviewer software. Many different types of data could be considered in a bibliographic data model. Metadata such as category topic, density data, and publication period are generally included in the articles.

## METHODS

Our bibliographic search covered all COVID Emergency Response in Southeast Asian Region articles published during the period 2020-2022; that was, since the start of the COVID pandemic in early 2020, 117 articles were analyzed. We established three eligibility criteria to select articles relevant to our research:

- (1) The study is published in Public Environmental Occupational Health, general internal medicine, emergency medicine, immunology, infectious disease, health care science, educational research, green sustainable research, and health policy. In contrast, books, book chapters, monographs, and conferences paper were removed.
- (2) Manuscripts included in the review must be conceptual, empirical, methodological, or meta-analytical/ review, with editorials, case studies, and reply comments removed.
- (3) Due to linguistic constraints, this research was limited to articles published in English.

The articles were mainly tracked from the ISI Web of Science electronic database. The search term keywords used to attain the potential paper were COVID Emergency Response, and we refined by ASEAN region consisting of Indonesia, Thailand, Myanmar, Laos, Cambodia, Malaysia, Brunei, Singapore, Philippines, and Vietnam.

Many different types of data should be explored in bibliographic data models. Metadata such as authors, publishing data, categories, and time are generally included with articles performed using the VOSviewer application.<sup>10</sup>

## RESULTS AND DISCUSSION

We presented the findings based on the article's origin, period of publication, and

thematic areas.

### Topic area of study

Analysis was performed using VOSviewer, to categorize the 83 articles in the sample. The most commonly used keywords were identified and examined. The subjects that arise more frequently in the investigated region stand out as a finding of this study. As shown on the map in [figure 1](#), the area was grouped into 10 clusters. The main area per cluster is care workers (red cluster), mental health (green cluster), ethics and equity (blue cluster), communication during the crisis (yellow cluster), COVID-19 disease (purple cluster), emergency response and preparedness (light blue cluster), emergency remote learning (orange cluster), critical care and surge capacity (brown cluster), transmission care (light purple), outbreak Response (light green cluster) ([Figure 1](#)).

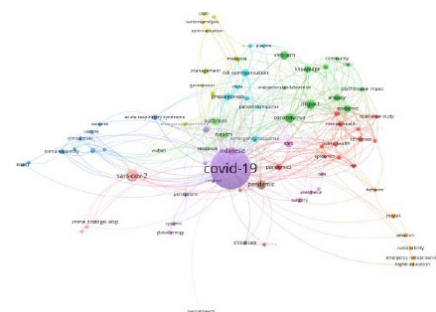
### Period of Publications

The result from the analysis shows the trend from year to year related to this study. The data is divided into 3 phases. At the beginning of the pandemic, the study discussed many coronavirus outbreaks and continued to discuss the physiological impact and mental health. In the final phase, the study focused on resilience. health workers ([Figure 2](#)).

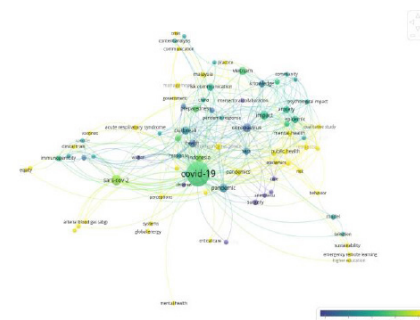
### The Area Density of The Study

The density of the study showed depth study, indicating that the more concentrated the colors emerge and the number of studies grows. From the analysis, the concept of COVID-19 is already a popular issue in emergency response in ASEAN countries. However, it is critical to have a more in-depth discussion about mental health and the ability of healthcare personnel to communicate during a crisis.

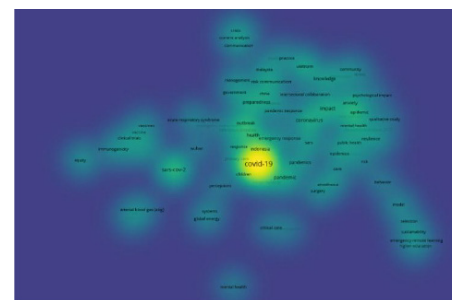
Based on [figure 3](#), Many empirical cases are related to the emergency response in Southeast Asia, only a few discuss the response of member countries related to mental health, more articles have been gathered on the topic of COVID-19 and the relationship between the SARS-CoV-2 variant and the spread of new variants in Asia. In Southeast Asia, researchers are also interested in discussing the topic of the government's response to the



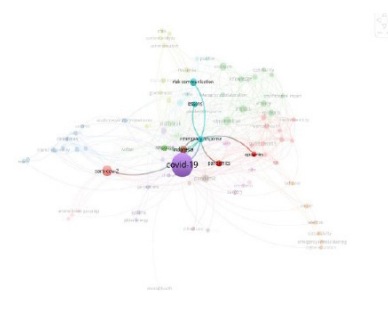
**Figure 1.** topic area analysis.



**Figure 2.** period of publication.



**Figure 3.** Density of publications.



**Figure 4.** Emergency response association's strength.

pandemic status, namely the connectivity of ASEAN states to accelerate collective efforts toward recovery, and economic resilience.<sup>4,11</sup>

For instance, the micro, small, and medium enterprises (MSME) sector which form the economic backbone of ASEAN, are critical in resuming the pre-pandemic socioeconomic growth path

towards sustainable prosperity for ASEAN peoples.<sup>3</sup> Targeted government assistance and stronger partnerships within and outside of ASEAN could accelerate digital connectivity and lead to a more connected, inclusive, and sustainable region.<sup>12,13</sup>

### Emergency Response Association Strength

The analysis shows the emergency response in dealing with COVID-19, among others. Studies related to risk communications, pandemic and endemic times, and Indonesian countries were associated (Figure 4).

Although the study on COVID Emergency Response has grown exponentially in the last year due to increased government, public, and private sector interest, it has been criticized for being too fragmented, diversified, and non-programmatic to provide an overall figure of subject trends.<sup>2</sup> Consequently, it is critical to identify study gaps and prospective future research trends in this field of knowledge.

This study provides an analysis of the leading journals, density data, and period of publication, keywords, which proves there has been significant development in research on COVID-19 Emergency Response and this is becoming a strategic approach for dealing with COVID-19 outbreak. Literature is expected to continue growing rapidly in the future years. In that case, Indonesia is one of the leading countries on the update of this topic.

Mental health is one of the study possibilities associated with the ASEAN region's covid emergency response. This is related to how these members could sustain the mental health of their citizens under lockdown.<sup>14</sup> Besides that, a study related to the ability of healthcare personnel to communicate during a crisis is an opportunity in the next study, Give the public things to do.<sup>15</sup> Offer them meaningful things to accomplish as much as possible; productive activities related to the problem they are facing.<sup>3</sup> Anxiety can be eased by taking action and regaining a sense of control.<sup>14</sup>

Emergency response association strength indicates that the COVID-19 topic has a relationship between communication risk, pandemic, and endemic. Our

findings imply that the public trusts and acts on information from ASEAN nation members in the context of COVID-19.<sup>16</sup> In most nations, overall familiarity and adherence were relatively high. When compared to hygienic measures, social distancing guidelines had a greater compliance rate.<sup>17-21</sup> However, there were differences in the amount of confidence in information from nation members at the country level, with countries that were badly hit by the epidemic reporting lower levels of trust.<sup>22</sup>

Moreover, Indonesia is associated with this area of study, Indonesia's government has implemented a number of programs aimed at combating Coronavirus Disease (COVID-19).<sup>6,7,16,23-28</sup> Cases, however, fluctuated for more than a year before the epidemic. Numerous studies discuss the importance of determining the healthcare system's capacity to absorb and handle a variety of healthcare demands.<sup>28</sup> The results of our study, Indonesia became a leading study in COVID emergency response in the southeast ASIAN region.<sup>6,7,16,23-28</sup>

This study is not without limitation, the results obtained in the year 2022 were until March, in which the data collection was carried out. Future studies may need to span the entire year in order to present a comprehensive figure of scientific output in 2022. Bibliometric analysis is dependent on technical choices such as subject areas and language, which may omit relevant publications from the analysis.<sup>29</sup> Another constraint is that, after consultation with various databases, it was chosen to use the Web of Science solely. A multisource approach that compares multiple databases may provide a comprehensive overview of the research on this subject and a clearer understanding of the major differences and implications of using multiple databases. The addition of additional keywords, such as Covid emergency response, which has a high degree of complementarity with the Covid-19 research and occasionally overlaps, would provide a more complete Figure.

### CONCLUSION

The current study contributes to existing research by establishing the state of the art and identifying trends, gaps, and research opportunities via the selection

and content analysis of the most recent and pertinent publications published in this field of study. This study provides an analysis of the leading journals, density data, and period of publication, keywords, showing that: (a) the literature on COVID Emergency Response in the COVID-19 field is significantly growing (b) according to keyword trend topic area analysis, emergency response is becoming strategic approach for dealing COVID-19 outbreak. However, there were differences in the amount of confidence in information from nation members at the country level, with countries that were badly hit by the epidemic reporting lower levels of trust. The results of our study, Indonesia became a leading study in COVID emergency response in the southeast ASIAN region.

Furthermore, bibliometric analysis has a limited potential for elucidating the settings and motivations for citation behavior. Additionally, even if only the best papers were selected, other works such as conference papers, book chapters, or dissertations may provide valuable insight into future research trends. A bibliometric technique produces an analysis that is eminently descriptive and may be devoid of content analysis to enhance explanation capacity and to provide a more in-depth examination of the data and consequences.

### CONFLICT OF INTEREST

There were no conflicting interests involved in the making of this article.

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### ETHICS APPROVAL

Not applicable.

### AUTHOR CONTRIBUTION

F.H. and F.F.R. on conceptualization; methodology, F.F.R. on writing original draft and supervision, F.H on review and editing. The involved authors have understood and agreed to the published version of the manuscript.

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