

A Study of the COVID-19 Infodemic in Malaysia

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ABSTRACT

The Malaysian public has been intensely fearful of the COVID-19 pandemic, but an infodemic has been spreading even faster than the virus itself. This has become a major concern because false information has disrupted the Malaysian government's efforts to deal with the pandemic. This study attempts to compare the types of fake news regarding COVID-19 that emerged during three separate waves of the pandemic in Malaysia, from January 2020 to March 2021. A quantitative content analysis approach was used for data collection and 314 samples (48 from the first, 214 from the second, and 52 from the third wave) were extracted from *Sebenarnya.my*, a portal initiated by the Malaysian Communication and Multimedia Commission (MCMC). The findings revealed that most fake news about COVID-19 was designed to spark fear and panic during all three waves. Examples included patients escaping hospital quarantines and locations being identified as red zones. In addition, inconsistencies in the Malaysian government's policies and instructions also led to an increase of viral rumours in social media during the second wave. The findings emphasize the importance of authorities ensuring information consistency and transparency during the pandemic. Considering that COVID-19 is a current issue and there is a growing need for information, the findings are significant as they could serve as guidelines for dealing with false information. Raising awareness is vital for more people to be alert before trusting any information they read and sharing it online.

Keywords: COVID-19, digital literacy, fake news, misinformation, *Sebenarnya.my*, social media

INTRODUCTION

Coronavirus Disease 2019, also known as COVID-19, is an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which was first discovered in December 2019 (Abdul Hafeez et al. 2020). The virus then began to spread globally (Birtles 2020). According to the Worldometer (March 2, 2021), more than 114 million infections and more than 2.5 million deaths were confirmed to date. The United States of America, India, and Brazil are among the countries with the largest number of confirmed cases. As stated by Douglas (2021), conspiracy theories regarding the virus began to surface after news of the first outbreak. Douglas gave some examples, including some people believing that COVID-19 was deliberately manufactured by the Chinese to wage war on the USA, while others believed that the virus was a hoax or part of a plan to stop Donald Trump's re-election.

Following the global outbreak, the World Health Organization (WHO) officially declared COVID-19 as a pandemic in March 2020 and noted that "misinformation and disinformation put health and lives at risk." As a result, the WHO has urged all countries to develop and implement action plans to facilitate the timely dissemination of science-based information to deter the proliferation of false information (World Health Organization, September 23, 2020).

As a consequence, many countries declared a national lockdown. The responses subsequently caused global, social, and economic disruption. According to Douglas (2021), the pandemic frustrates people's psychological needs. When this happens, they seek out any information, including information from informal and unverified sources, to answer their uncertain future. Conspiracy theories are also consequential and Douglas outlines previous studies which show people who believed in these conspiracy theories as less likely to comply with preventative behaviours, such as wearing a mask or adhering to social distancing. Believing fake news also fuels further panic, as evident in the public panic buying at supermarkets. Other instances include the marking up of surgical face mask prices for quick profits and the promotion of false remedies that are allegedly effective against the virus (Leong 2020). Images of military vehicles or troops patrolling the streets that went viral among the users of WhatsApp, Facebook, and Twitter also created needless panic among the people. While all the information was verified to be inaccurate or taken out of context, the resulting disruption and confusion cannot be neglected.

As a result, Malaysia's law enforcement has been strengthened to combat false news by implementing a number of measures. Nor Ain reported, in a 'New Strait Times' article on false COVID-19 news (September 25, 2020), that the Malaysian Communication and Multimedia Commission (MCMC) and the police had filed 268 investigative files on fake news, with 35 defendants prosecuted in court and 19 suspects pleading guilty. In February 2020, Mohd Farhaan (2020) reported that a total of 12

individuals were detained for posting fake information on COVID-19 and were charged under Section 505(b) of the Penal Code.

Despite efforts by the Malaysian government, there is still a wide knowledge gap in understanding the characteristics of fake news on COVID-19 that is spreading through the country. MCMC's main effort to combat the misinformation has been through its special website *Sebenarnya.my*, which is a portal for the public to submit fake news that they have received and read clarifications on fake news being circulated in social media. Though there is a list of fake news on COVID-19 shared on the website, there is still a lack of current research that analyses the content of this fake news. Without a clear understanding, the government and other health organisations remain reactive in their efforts to curb fake news. Thus, this study aims to fill in the gap by providing a clearer understanding of the fake news on COVID-19 in Malaysia.

THE FIRST, SECOND, AND THIRD WAVE

According to Diyana and Razak (2020), the first case of COVID-19 in Malaysia was detected on 25 January 2020, involving three Chinese tourists who had entered Malaysia via Johor from Singapore two days prior. On 30 January, eight Chinese citizens were tested positive for COVID-19. The first local infection was believed to be identified on 4 February (Tang 2020). The number of cases then rose to 22 on 16 February, marking the first wave of cases. The number of cases then escalated after the 'Tabligh' religious event took place from 27 February to 1 March in Kuala Lumpur. It was estimated that around 16,000 individuals attended the event, with approximately 1,500 of them coming from different parts of Southeast Asia (Bernama, 17 March 2020).

The second wave is believed to have occurred between 27 February 2020 and 30 June 2020 (Rampal and Liew 2021). According to both scholars, the biggest cluster during the second wave was the Seri Petaling cluster, which involved a religious gathering held at a mosque in Seri Petaling, Kuala Lumpur. The condition was under control by the middle of May 2020, when the number of new cases reported showed a decline at that point.

The number of cases then escalated, which was caused by the two main clusters, namely the Benteng Lahad Datu cluster in Sabah State and the Kedah's Tembok cluster. This marked the beginning of the third wave, which is believed to have begun on 8 September 2020 (Rampal and Liew 2021). Currently, Malaysia is listed as one of the Asian countries most affected by COVID-19. In April 2021, the cumulative number of confirmed cases of COVID-19 reached 352,029, including 1,295 deaths and 336,456 had recovered (Worldometer, 6 April 2021).

SCOPE OF THE STUDY

There is a growing need for information considering that the pandemic is a current issue. While the Internet has made information dissemination easier and simpler, verifying the authenticity of disseminated information can potentially be challenging and problematic. This is proven as *Sebenarnya.my*, a fact-checking website led by the Malaysian Communication and Multimedia Commission, has published more than 300 fact-checks of COVID-19 related to false information (Harris and Farlina 2020). The scholars have also identified broad themes of false information related to COVID-19 in Malaysia. However, a systematic analysis of this false information is still lacking. Furthermore, there has been no comparison of false information that appeared throughout the three different COVID-19 waves that hit the country. In a conceptual paper, Aimi et al. (2020) raised the problem of sharing fake news which has caused public anxiety and fear. They argued that individuals who share all kinds of information they have received, do so as an act of caring for their society. Such a belief was problematic and unethical. However, the paper lacks relevant data analysis.

Past studies such as Arina et al. (2020) found that Malaysians held positive attitudes toward the successful control of COVID-19 and were sympathetic towards the way the Malaysian government was handling the crisis. However, it is important to note that the survey was conducted between 27 March and 3 April 2020. Therefore, the data is only valid for the beginning of the second wave. The study does not account for the subsequent continuous rise in cases or the third wave. There is then a large knowledge gap in understanding the nature and topic of these fake news. The high number of police investigation papers on fake news (Nor Ain, 2020) makes it imperative that a study is needed on understanding the topic of fake news before relating it to pandemic response strategies by the authorities.

With the lack of current data and understanding on COVID-19 fake news, this study attempts to fill in the research gap by comparing the false information or fake news that was shared during the first, second, and third waves in Malaysia. The study covers samples from Jan 2020 to March 2021.

LITERATURE REVIEW

An Overview of Fake News

There are many definitions of fake news and adding to the complexity is how something that is currently fake can turn real in the future. Therefore, there is considerable disagreement when it comes to determining which content should be considered 'fake news' and which should be excluded. This understanding is relevant because the term 'fake news' has been highly partisan and it is frequently

used as a buzzword not just to describe false facts but also to discredit news organisations or to contend against statements that contradict our own view (Tandoc, et al. 2017). Furthermore, labelling a piece of content as false can be a difficult endeavour as it requires a lot of effort to prove the label (Southwell et al. 2017).

Challenging the complexities and ambiguity of the term head-on, some scholars attempted to define fake news as misinformation. Scholars such as Tan et al. (2015, 675) use related keywords such as “unverified, speculative, vague, exaggerated and contradictory.” Purohit (2020) defines fake news as including false information, conspiracy theories, and distorted images. On the other hand, Wardle (2017) referred to it as false connection, false context, manipulated content, misleading content, imposter content, and fabricated content. Wardle’s definition is close to that of Allcott and Gentzkow (2017) in that fake news is misleading and is intentionally and verifiably false. Tandoc et al. (2017) highlighted that fake news is not just about fabrication and manipulation, but it can also be related to satire, parody, advertising, and propaganda. Aside from that, fake news is also being defined as rumours, gossip, and speculation (Hill and Bradshaw 2016).

In this study, the researchers will adapt some of the definitions from scholars such as Purohit (2020) and Allcott and Gentzkow (2017) who pointed out that fake news is misleading and contains false information. The researchers use the definition of fake news as intentionally or unintentionally spreading false information, content, or ideas in any forms which include visuals and/or audio recordings. This definition is also in line with the Malaysian Anti-Fake News Act 2018 that considers fake news as “any news, information, data and reports, which is or are wholly or partly false, whether in the form of features, visuals or audio recordings or in any other form capable of suggesting words or ideas” (Nasional Malaysia Berhad 2018, 1). In summary, articles related to COVID-19 that contain false information which are posted on *Sebenarnya.my* will be reviewed and analysed in this study.

Growing Urgency for More Studies on False Information

The emergence of the participatory web and user-generated content has brought positive changes to the ways people receive and share information. Such information is cheap to produce, and at the same time, it can easily blend into our everyday conversation and life (Kovach and Rosenstiel 2014). The younger generations also get their sources of news from search engines, news feeds and mobile alerts, hence having a higher transparency of information. This also means that there are more diverse voices and perspectives on various issues.

These positive traits, however, have also created the problem of misinformation as any information or news consumed online could be false. Traditional news organisations were previously the gatekeepers

of news. However, unlike traditional media outlets, social media are relatively unregulated, and this has raised the issue of sharing wrong information, which can cause unnecessary panic and confusion.

Compounding this problem is the difficulty journalists face in reaching the mass audience with accurate, truthful, and balanced news (Wilson 2016). Apart from the public having easier access to information, the problem is exacerbated by the declining public trust, as well as changes in journalism practices and the Internet (McNair 2016). Of course, the spread of fake news is blamed for further eroding the public's trust on credible news organisations (Zimdars 2016). False information could also be used to deliberately cause harm to an organisation's reputation (Sarah 2018).

Furthermore, false information can also threaten democracy in the country, particularly when there is a lot of political gossip during an election campaign. The freedom of expression allowed by the Internet has also enabled anonymous messages to be spread online for political agenda, business profits or personal gains (Hill and Bradshaw 2016).

With all these in mind, it has become increasingly difficult for people to ascertain what is true or false information online. The lack of journalistic training and professionalism among online content creators or editors also does not alleviate the issue. Of course, during a health crisis like the COVID-19 pandemic, this situation is made worse. Unverified information on social media may then mislead the public and have it react negatively to the crisis.

THEORETICAL FRAMEWORK

The theoretical framework that is used in this study is digital literacy. As this study analyses the content of misinformation being shared, digital literacy is apt in explaining the nature of misinformation and why it is being shared.

In studying fake news or misinformation, the ability to understand and use information in multiple formats coming from multiple sources is significant. More often, information is shared and forwarded without proper verification. This is echoed by Guess et al. (2020) that most people struggle to reliably evaluate the quality of information they encounter online due to the lack of skills and cognitive knowledge to effectively distinguish the right and false information. From the perspective of psychology, people tend to label statements based on their interests and experiences which could contain certain personal biases. Specifically, the transformation and evolving nature of the information environment have led to the rise of citizen journalism where everyone can become a producer and an editor of content. Unlike the traditional way where news and information go through proper gatekeepers before actual publication, the online platforms skip this process and therefore information

is freely distributed and sometimes without proper checking and authentication. This perhaps is one among other factors that contribute to the “misinformation” culture.

This “fake news” phenomenon is difficult to stop without good cognitive ability (Flynn, Nyhan, and Reifler 2017) because the line between real information and fake news is often blurred. A good cognitive ability empowers individuals to actively share information and protect themselves against the harmful influence of fake news (Jeong et al. 2010). This is evident in Graham and Triplett’s (2017) findings that indicate that digital literacy could influence one’s response towards phishing emails. Scholars found out that individuals with higher levels of digital literacy report receiving phishing emails more often, however, they seldom respond to these. This has shown the importance of having high levels of digital literacy. This is because digital literacy is not just about receiving information, but it also involves one’s awareness, attitude, and ability to appropriately use digital tools. Cognitive ability is not solely just about knowing how to use a technological tool, but it requires in-depth knowledge on how to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources which including the information and the communication between netizens to enable constructive social action and be able for one’s to reflect upon this process (Martin 2006). Therefore, it can be summarized with the skills to search and synthesize digital content critically (Ng 2012).

Considering that the public sphere is virtual and netizens are granted major freedoms which could be hard to monitor, checking information is not easy as it requires major efforts for doing research and applying critical thinking. Specifically, as part of individuals who use the Internet, it has become our role to help filter information and report information that is suspicious or regarded as misleading. As Pangrazio (2018) highlighted, the “role of individuals as gatekeepers of information sharing on social media cannot be underestimated.” Interaction with reliable sources is an example of efficient gatekeeping.

To summarise, the practice of digital literacy would enhance enjoyment, understanding and appreciation of online content as it would provide us with more control over the interpretations of online resources.

Considering the fact that COVID-19 is a current issue and there is an increasing demand for information, the ability to discern facts from false information becomes significant. The findings of this study therefore could help in deepening the understanding of false information through identifying fake issues and topics that occur during the first, second, and third wave of COVID-19 in Malaysia, in the hope to raise awareness so that people would be more alert and seek verification before receiving and sharing any information online. Since the spread of false information is closely tied to digital literacy, the findings of this study could offer remedies or recommendations. These recommendations could be used to curb the spread of false information in the country.

RESEARCH METHODS AND DESIGN

This study employs a quantitative approach in gathering empirical evidence for the analysis of the false contents in online news articles. Over the years, the content analysis method has been widely utilised by communication researchers to study a variety of communication texts because it enables descriptive and inductive ways of hypothesis testing (Mastro and Figueroa-Caballero 2018). Therefore, a quantitative content analysis is conducted to examine the themes and/or topics of the articles which contain false information related to COVID-19.

False information is spread through social media without a specific focal point. Hence, it would be challenging to compile the information without being one of the intended recipients. To collect the required samples of false information, the researchers decided to extract the samples from *Sebenarnya.my*, a website that operates as a one-stop centre for receiving and verifying fake news submissions. Set up and operated by the Malaysian Communications and Multimedia Commission (MCMC), the website contains a specific category for COVID-19 related false information. As a Malaysian government agency, the MCMC verifies the submissions and posts these verifications on the website as articles. Extracting the articles as samples enables the researchers to compile the topics and/or themes.

The period of data collection was from January to December 2020. Data was then analysed based on months and waves to understand the trend of fake news at different times. Table 1 shows the 3 waves reported by Diyana and Razak (November 23, 2020) in *The Star*.

Wave	Period
First Wave	25/01/2020 – 22/02/2020 *approximately
Second Wave	27/02/2020 – 31/08/2020 *approximately
Third Wave	20/09/2020 – 31/03/2021 *approximately

Table 1: Period of fake news during the three waves.

During the three waves, a total of 314 articles were collected (see Table 2).

Month	Number of Fake Covid-19 News Articles
January 2020	27
February 2020	21
March 2020	105
April 2020	72
May 2020	15
June 2020	4
July 2020	11

August 2020	7
September 2020	4
October 2020	11
November 2020	5
December 2020	6
January 2021	15
February 2021	7
March 2021	4
Total of Articles	314

Table 2: Sample of articles containing false information related to COVID-19 by month.

Month	Number of Articles
First Wave (Jan 20 – Feb 20)	48
Second Wave (March 20 – Aug 20)	214
Third Wave (Sept 20 – Mar 21)	52
Total of Articles	314

Table 3: Sample of articles containing false information related to COVID-19 by wave.

In the content analysis, an operational definition for themes/topics of false information is provided. First, the samples of the articles were extracted from *Sebenarnya.my*. Next, 10 percent (31 articles) of the contents were studied. Later, a series of concise detailed definitions for each theme/topic is developed and clarified to ensure consistent coding. A sample of an article's headline was provided to serve as a guideline of the coding (see Table 4). In addition, a coding sheet in Excel form was also developed to examine the quantitative aspects of the data (see Table 5). In the coding sheet, a column with "remark" is created to ensure that new themes/topics that emerge but do not belong to any suggested group could still be coded for further analysis. Lastly, data with similar themes/topics are rearranged under the same category, and statistics are generated using Microsoft Excel.

THEMES/ TOPICS	OPERATIONAL DEFINITIONS	SAMPLES OF ARTICLE HEADLINES (Malay-to-English translations by authors)
Business	Any mention of advertising for profit orientation (e.g. fake accounts for promotion; fake advertising; face mask business, etc.)	<i>Waspada Pembelian Topeng Muka dan Hand Sanitizer atas talian</i> [Beware of online face mask and hand sanitizer Scams]
Politics	Any mention of political parties or politicians (e.g. conflicts/accusations towards politicians/ political parties, etc.)	<i>Gambar ahli parlimen tidak memakai topeng muka dalam tempoh pkp covid-19</i>

		<i>[Member of parliament not wearing a face mask seen in a photo during MCO (Movement Control Order)]</i>
Personal Issues	Any mention of hostile activities to achieve a certain individual's agenda (e.g. scammers, hackers, to spread malware/viruses, email spam, etc.)	<i>Waspada ada pihak menggunakan peta sebaran COVID-19 untuk sebar Malware</i> <i>[Beware of parties using COVID-19 map to spread malware]</i>
Government/ Authorities	Any mention of authorities' policies or instructions, including any misunderstandings of how authorities execute their tasks (e.g. the authorities instruct citizens from an area to get COVID-19 tested, etc.)	<i>Sepasukan polis menangkap lelaki positif covid-19 guna pistol perenjat elektrik adalah bagi tujuan latihan</i> <i>[Police practice using stun guns to arrest COVID-19 suspects]</i>
Health Care Institutions	Any mention of the decisions by a hospital for handling COVID-19 (e.g. ways of Covid-19 tests, decision of changing the location of COVID-19 patients to a new place, etc.)	<i>Hospital Sungai Buloh minta sumbangan kelengkapan pelindung diri bagi merawat pesakit COVID-19</i> <i>[Sungai Buloh Hospital requesting donation for Personal Protective Equipment]</i>
Fears and Panics	Any issue related to infections that could spark fear and panic in the public (e.g. a COVID-19 patient has escaped from a hospital; someone tested positive for COVID-19; places are declared as red zones; the closure of hospitals, shops, malls due to COVID-19; etc.)	<i>Tesco Kuala Selangor tutup bagi tujuan disinfeksi kerana kakitangan disahkan positif</i> <i>[Kuala Selangor Tesco employee tested positive for COVID-19, store closed for disinfection]</i>
Solutions and Preventions	Provide any suggestions or help for the prevention of COVID-19 (e.g. eating onion can prevent infections, etc.)	<i>Tiada bukti bahawa bawang putih boleh mencegah daripada jangkitan COVID-19</i> <i>[No proof that onions can prevent COVID-19]</i>
Charities and Donations	Any mention of donating to certain parties (e.g. donate to the hospital due to shortage of equipment in the hospital, donate food to Covid-10 frontline heroes, etc.)	<i>Waspada penipuan kutipan sumbangan_derma berkaitan COVID_19 di pulau pinang melalui media sosial</i> <i>[Beware of COVID-19 donation scams via social media in Penang]</i>
Covid-19 Aid	Any mention of help from the government (e.g. to download certain Apps to get special help, cash, packaged food, etc.)	<i>Bantuan B40 (Peka 40) memberi bantuan sebanyak RM250 sebulan semasa COVID-19</i> <i>[B40 COVID-19 package – RM250 assistance per month during COVID]</i>

Covid-19 Conspiracy Theories	Any mention of COVID-19 virus (e.g. the shape of the Covid-19 virus, the symptoms/elements/characteristics of the COVID-19 virus, for instance, resembling the SARS virus or influenza, animal contact with COVID-19 patients can spread the virus, etc.)	<i>Imej Virus Koronavirus seperti Makhluk</i> <i>[Images of creatures that look like the coronavirus]</i>
Others	Any other related issue raised due to Covid-19 cases (e.g. the increase of domestic violence, divorce cases during movement control order, etc.)	<i>Dakwaan peningkatan kes keganasan rumah tangga diterima melalui talian kasih 15999 sepanjang tempoh PKP</i> <i>[Increase in domestic violence cases received through hotline 15999 during the period of movement control order]</i>

Table 4: Table for operational definitions of themes/topics related to false COVID-19 information.

No	Headline	Month	Type of Article	Key phrase	Remark (for any special issue)
1	<i>2 Pesakit Cina Yang Dijangkiti Koronavirus 2019-nCoV Telah Dimasukkan Ke Hospital Sultanah Bahiyah, Alor Setar</i> <i>[2 Chinese patients infected by 2019-nCoV coronavirus were sent to Hospital Sultanah Bahiyah, Alor Setar]</i>	January	Fear and Panic	<i>Pesakit cina yang dijangkiti koronavirus</i> <i>[A Chinese national patient was infected with coronavirus]</i>	–

Table 5: Sample of coding sheet.

RESEARCH FINDINGS AND DATA ANALYSIS

According to Table 6, the dissemination of false information appeared to be the most critical during the second wave (214 articles) of the pandemic. In comparison, the first wave (48 articles) and the third wave (52 articles) shared an almost equal number of false information spread during the pandemic. This implies the lack of information during the second wave, particularly during its early stage, in which many rumours were forwarded through WhatsApp and Facebook. The first wave has the lowest number due to the beginning stage of the pandemic which was not as serious as the second and third waves. Most of the false content was posted by tourists or foreigners and not by local Malaysians. Since the outbreak of the virus during the second wave, Malaysian authorities have taken many

precautions and introduced action plans to inform and update the public on the conditions of the pandemic, such as the establishment of the *My Sejahtera App* and the *Sebenarnya.my* website, and to curb the spread of false information. As a result, the decline in the number of false information related to the virus during the third wave (52 articles) indicates that the policies were somewhat effective.

Type of Article/Month	Number of Fake Covid-19 News Reports						Total	
	First Wave		Second Wave		Third Wave			
	No	%	No	%	No	%	No	%
Business	1	2.1%	8	3.7%	2	3.8%	11	3.5%
Politics	1	2.1%	1	0.5%	2	3.8%	4	1.3%
Personal Issues	1	2.1%	6	2.8%	1	1.9%	8	2.5%
Government/Authorities	0	0%	43	20.1%	23	44.2%	66	21%
Health Care Institutions	0	0%	10	4.7%	3	5.8%	13	4.1%
Fear and Panic	43	89.6%	110	51.4%	19	36.5%	172	54.8%
Solutions and Preventions	0	0%	14	6.5%	2	3.8%	16	5.1%
Charities and Donations	0	0%	9	4.2%	0	0%	9	2.9%
Covid-19 Aid	0	0%	7	3.3%	0	0%	7	2.2%
Covid-19 Conspiracy Theories	2	4.1%	4	1.9%	0	0%	6	1.9%
Others	0	0%	2	0.9%	0	0%	2	0.6%
Total	48	100%	214	100%	52	100%	314	100%

Table 6: Number of false information related to COVID-19 by wave.

The first wave focused on false information related to the intention to instil fear and panic (approximately 89.6%), whereas the second wave emphasised a variety of topics with most topics related to fear and panic (approximately 51.4%) and issues related to the ways authorities function (approximately 20.1%). Similarly, most of the third wave topics were closely related to fear and panic (approximately 36.5%) and authorities (approximately 44.2%).

Table 6 also indicates that most false information related to COVID-19 was retrieved from *Sebenarnya.my* with the intention to spark fear and panic among citizens (a total of 172 articles). Among them, the most critical number of fake news emerged in March 2020 (63 articles), followed by January 2020 (24 articles). Most of these articles were related to the infection of COVID-19. For instance, there was an article with the headline “Seorang Lelaki dari Tripura, India maut akibat jangkitan koronavirus di Malaysia” (transl.: “An Indian national was infected with COVID-19 and died in Malaysia”). This example shows that with the headline alone we can observe how the false information is meant to spark fear among the readers. Other examples of such articles include those that stated there were COVID-19 positive cases in several hospitals, such as Hospital Ampang, Seremban Hospital Tuanku Jaafar, Seremban KPJ, Penang Hospital, and Klang Hospital – which were all false claims.

Apart from this major type of false information, the second most frequent type were on rumours regarding actions by the authorities in handling the virus (a total of 66 articles). For instance, one of the articles has a headline alleging that army veterans would be requested to assist in enforcing the Movement Control Order: "Dakwaan kementerian pertahanan akan minta bantuan veteran menguatkuasa PKP" (*It was claimed that the Defense ministry will seek the help of army to enforce the Movement Control Order.*). The third highest type of false information was recommending ways to cure or prevent COVID-19 (16 articles).

Type of Article/Month	Number of Fake Covid-19 News															Total
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	
Business	0	1	2	5	0	0	1	0	0	0	0	0	0	1	1	11
Politics	1	0	1	0	0	0	0	0	1	0	0	0	0	1	0	4
Personal Issues	0	1	3	3	0	0	0	0	0	0	1	0	0	0	0	8
Government /Authorities	0	0	15	19	3	1	1	4	0	3	3	4	8	4	1	66
Health Care Institutions	0	0	3	6	0	1	0	0	0	0	0	0	2	1	0	13
Fear and Panic	24	19	63	25	10	2	8	2	3	8	1	2	4	0	1	172
Solutions and Preventions	0	0	7	5	0	0	1	1	0	0	0	0	1	0	1	16
Charities and Donations	0	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
Covid-19 Aid	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	7
Covid-19 Conspiracy Theories	2	0	1	1	2	0	0	0	0	0	0	0	0	0	0	6
Others	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	27	21	105	72	15	4	11	7	4	11	5	6	15	7	4	314

Table 7: Types of false information related to COVID-19 by month.

The first and second waves shared similarities, where the highest type of false information was to spark fear and panic. However, as we analyse the content of the types within the first wave, we see that a number of articles were written about foreigners visiting Malaysia. Apart from that, the false

information included rumours about the cause and possibility of the virus spreading from China. Other examples included the labelling of certain geographical areas or locations that were affected by the virus.

On the other hand, during the second wave, we observed that there were more variations to the types of false information within the Fear and Panic category. The topics focused on local Malaysians who were suspected to be infected with COVID-19. Apart from this type, there was a high amount of false information shared regarding the actions of the authorities. These included false infographics, false meeting agendas, and authorities abusing their powers. In addition, there was also false information about selling surgical masks, spamming, wrong details about the donations to hospitals, and some conspiracy theories about the virus, such as an ostensible resemblance to the SARS virus or common influenza. Although it was discovered that during the third wave there were similar topics that instil fear and panic (e.g., areas/places/restaurants have been labelled as yellow and red zones with high COVID-19 cases), some of the topics started to shift towards policy declarations and executions in the region. Several dates and different practices of standard operating procedures during the different stages of the movement controls in Malaysia (3 stages: Movement control order (MCO), Conditional Movement Control Order (CMCO), and Enhance Movement Control Order (EMCO)) were shared through WhatsApp and Facebook. Furthermore, some new topics arose during the third wave related to the vaccination, which had been claimed as fake news by the MCMC.

DISCUSSION

Results of this study show that the highest type of false information during all three waves of COVID-19 was intended to spark fear and panic (172 articles, 54.8%). This result matches the arguments presented in the theoretical framework on digital literacy. In the framework used in the study, individuals share such types of false information due to their lack of necessary skills to verify the information and its sources. This can be further observed through the articles posted on *Sebenarnya.my*, which showed information coming from an ambiguous source. The result also matches the explanations by Aimi et al. (2020) and Harris (2020) that members of the public might think of sharing such types of information as an act of caring for their community, especially when this information contains elements that would spark panic. Unfortunately, the information shared is not verified.

Hence, Aimi et al. (2020) alluded to the importance of being a responsible member of the public by sharing truthful information that contains reliable and credible sources. Kanekar and Thombre (2019) and West (2017) echoed this by pointing out that the public has a great responsibility to respond and disseminate accurate health-related information to tackle fake news.

Undoubtedly, the Internet can be used to improve people's understanding of COVID-19. Nevertheless, it is important that people must sharpen their interpretive and critical thinking skills to differentiate true from false health information. Abdulai et al. (2020) added by saying that health professionals may have great knowledge of evaluating internet-based information critically. However, this could be the opposite for the general people, particularly laypeople from low-income countries. The scholars' further claimed that these people have limited knowledge of COVID-19 was predictive of low digital literacy. Therefore, it implies that digital literacy played a great role in countering fake news, so the public can learn to protect itself from being victimized by fake news or from unintentionally disseminating fake news. As found by Buchanan (2020), those who often share disinformation are those who think it is likely to be true or have pre-existing attitudes consistent with it.

Other than this, the findings also reveal that disinformation about authorities' actions is the second highest type of fake news (66 articles, 21%) that went viral on social media. This includes the policy implementation as well as how the authorities handled the COVID-19 pandemic, for instance, rumours of sending military veterans to assist the task force. This can be avoided if there is transparency and consistency of information. Yeoh (2020) mentioned that there is inconsistent policy making between the state government and the federal government in their responses to the virus. For instance, the state governments were against the federal government's decision to open up the economy under the Movement Control Order. Such contradictions could further lead to confusion among the public.

In addition, this study echoed the study of Harris and Farlina (2020) that there is a lack of information related to COVID-19 during the beginning of the first and second waves. This explains the reason for the high amount of false information, as the public attempts to seek any information they can find on the issue. Hence, the public alone should not be blamed for this. Instead, there were 54 false claims coded "authority action" during the first month of the implementation of the movement control order (Harris and Farlina 2020). Harris (2020) wrote that "the Malaysian government ought to rethink why the onus is placed on the public to not spread false information when they could, genuinely, not have known any better." More importantly, punishing people for sharing false information would only aggravate the situation further and does not help to solve the problem (Soo 2020). In other words, instead of pointing the finger at ordinary people, educating and equipping them with better digital literacy skill sets to spot false information is a far better solution.

CONCLUSION

Overall, the findings emphasise the importance of authorities ensuring consistency and transparency in sharing information. In addition, they also indicate that a low digital literacy rate may have led to the spread of false information, which in turn caused fear and panic. This is supported by Aimi et al. (2020)

who have stated that authorities and the public played a crucial role in dealing with information on COVID-19. More often, the sharing of information about COVID-19 patients was regarded as caring for the community and as preventing the further spread of the disease. While this could lead to the breach of privacy of certain individuals, some of the information was fake (Wang et al. 2019). Therefore, netizens must double check every information. Every individual must tackle fake news. In other words, every individual should be responsible in the way they handle any information received online. Therefore, it is vital to learn to respond appropriately and only disseminate accurate information from official sources (West 2017).

This study proposes that a curriculum or syllabus on critical news analysis be included in high school textbooks. The syllabus could include a checklist for evaluating sources, intentions or purposes of a message. This would improve the public's digital literacy skillset. People would become more sceptical of any information they receive in the future, which may contain inaccurate information. Similarly, college and university students need to be nurtured and educated through sharpening their critical thinking and critical analysis instead of passively accepting all information. The subject of digital literacy should be categorised as mandatory in the foundation or first-year diploma. This could be similar to the current practices of Malaysian universities, which provide Titas (Islamic and Asian Civilization Studies)/Moral as a compulsory course. Digital literacy involves critical analysis and should be geared towards coursework and practical skills instead of focusing on examination-based assessments.

On the other hand, transparency and consistency of information is also vital to curb fake news. Hiding facts about COVID-19 hotspots could further lead to the spread of rumours and public speculation. Arina et al. (2020) have also outlined the importance of consistent sharing of messages from health authorities and the government to improve the levels of knowledge, attitudes, and practices among citizens. Tharanya (2020) also stressed that a clear, precise and consistent Standard Operating Procedure (SOP) directive is needed. This was because the current use of different SOPs for different sectors or geographical boundaries leads to a high degree of confusion among the public and authorities. Similarly, Abuza (2020) highlights the importance of government transparency to have effective communication. The journalist has further pointed out that a government that admits its problems is much better than a government with multiple speakers and inconsistent policy. Although the Malaysian government has immediately come out with action plans, such as establishing a rapid response troop (PRP) and using official channels to communicate (Tharanya 2020; Aimi et al. 2020), more needs to be done. The level of crisis preparedness is still low as there was a lot of false information spread on social media at the beginning of the pandemic. Therefore, it is important to be proactive for future challenges to minimise the harm caused by fake news.

In conclusion, it is hoped that the findings of this study could provide the foundation for identifying major patterns or topics that can aid reliable classifications of real and fake COVID-19 news. It also

promotes the importance of digital literacy to establish a more credible information environment. The ongoing third wave of COVID-19 cases in Malaysia is at a critical stage and it is hoped that the government would strive for more transparency in their crisis management. This transparency and clear communication are needed more than before to combat the spread of vaccine-related false information, especially in social media. This slows down the whole recovery process. Building confidence and trust in the government is critical. With that, it is crucial to have enough truthful information being circulated from official government websites. Then, the credibility of fake news would weaken and could be disputed.

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