

Short Communication

Tackling misinformation and poisoning during the Covid-19 pandemic through Facebook: Role of the Malaysia National Poison Centre

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Abstract

The unprecedented Covid-19 pandemic brought upon us a constant barrage of misinformation with deleterious consequences. This short communication describes the role of the Malaysia National Poison Centre (NPC) in creating awareness and clarifying misinformation surrounding ‘viral’ Covid-19 issues in Malaysia. Facebook posts were periodically published, and the number of followers increased drastically in 2020, especially at the beginning of the nationwide Movement Control Order (MCO)’s implementation, which was between March and April 2020. Among various key issues posted in Facebook, the highest numbers of reach and user activity were recorded for the following topics; health tag product (reached 1,471,936 people with 257,645 users’ activity), hand sanitizer poisoning (reached 134,600 people with 23,400 users’ activity), bleach ingestion (reached 50,000 people with 8,100 users’ activity) and disinfection tunnel (reached 27,000 people with 2,708 users’ activity). These posts were written to disseminate accurate information, caution against misuse of products, and provide appropriate recommendations for Covid-19 protection, in the NPC’s steadfast action to fight Covid-19 ‘infodemic’.

Keywords: social media, coronavirus, public health, health tag, hand sanitizer poisoning

1. Introduction

The advent of internet and social media has opened up new possibilities for better information circulation and outreach, thus enabling users to access, share and produce various types of content all around the globe (Del Vicario, Bessi, & Zollo, 2016). Unfortunately, the same platforms have contributed to an increasing volume of fake news and misinformation as they allow rapid and large-scale sharing (Vosoughi, Roy, & Aral, 2018) and lack the traditional

mechanisms of quality control and ‘gate-keeping’ (Lewandowsky, Ecker, & Seifert, 2012). The World Health Organization (WHO) announced that the new coronavirus pandemic, which began in December 2019, was accompanied by an ‘infodemic’ of misinformation (World Health Organization, 2020a, 2020b). Misinformation about the pandemic poses a serious life-threatening risk to public health and public action amid this unprecedented global health crisis. In addition, many journalists, policy makers, and academics have stressed to the WHO the importance of taking bold steps in addressing these concerns (Brennen, Simon, Howard, & Nielsen, 2020).

Malaysia recorded its first Covid-19 case on 25 January 2020 (Pung *et al.*, 2020) and its first confirmed death

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on 17 March 2020 (See *et al.*, 2020), after which the number of positive cases and deaths steadily increased (Department of Statistics Malaysia, 2020). At the onset of the outbreak, the Movement Control Order (MCO) was rolled out on 18 March 2020, enforcing travel restrictions, working from home orders, closure of all businesses (except essential services and items), strict standard operating procedures (SOPs), health screening, and tracking interventions (Tang, 2020). Thus began the extensive internet use and online information-seeking behaviour among Malaysians, whereby a majority of them sought new information regarding the pandemic situation and the latest daily updates online. As depicted in Figure 1, a survey conducted by the Malaysian Communications and Multimedia Commission (MCMC) in 2018 estimated that there were about 24.6 million social networking users in Malaysia, whereby 97.3% of them owned a Facebook account, making it the most preferred social networking platform in the country (Malaysian Communications and Multimedia Commission, 2018).

2. Role of the Malaysia National Poison Centre (NPC)

The NPC serves as the sole agency providing poisoning emergency online consultation as well as drug and poison information in Malaysia, operating every day and continuously monitoring poisoning cases and trends of information, especially during the Covid-19 pandemic. This paper examines the role that the NPC plays in disseminating accurate information to Malaysians during the first year of the pandemic. This work also highlights the key issues that the NPC tackled, and various responses by the public.

2.1 Facebook followers

The NPC’s official Facebook page has been established in March 2018 when the centre realised that there was a need for a new medium to convey toxicology information and education to the public. This is in line with the increasing popularity of social media use in the dissemination of information to the public. Figure 2 illustrates the increasing number of the NPC’s Facebook followers from

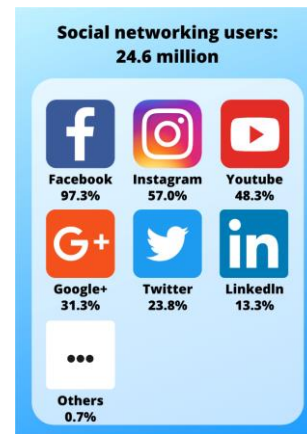


Figure 1. Estimated social networking users in Malaysia in 2018

January 2019 to December 2020. It could be observed that the numbers drastically increased between March and April 2020, and consistently increased till the end of 2020. Prior to March 2020, the number of followers recorded a slow increase.

The first sharp increase in March 2020 is parallel with the beginning of the Covid-19 pandemic in Malaysia, as well as the implementation of MCO nationwide. MCO implementation is equivalent to ‘lockdowns’ in other countries, whereby strict requirements are imposed on movement along with SOPs that are controlled tightly by the regulatory authorities, and a breach may result in hefty penalties with the possibility of jail time (Tang, 2020). As the majority of the people remained at home during these times, they went online to search for information, and thus increased the number of followers of the NPC’s Facebook page.

2.2 Covid-19-related Facebook posts by the NPC

Many key issues related to Covid-19 surfaced in 2020, and the NPC acted by clarifying these issues to the public. All of these topics became an overnight interest to the public, in line with the ‘viral’ controversies which triggered such interest. Table 1 shows various Covid-19-related posts at the NPC’s Facebook account in the year 2020.

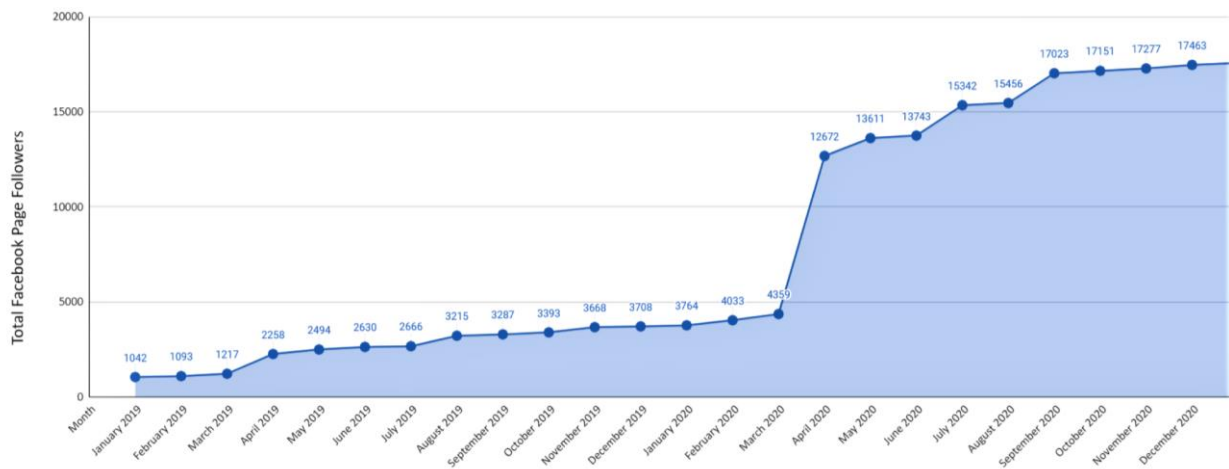


Figure 2. Number of the NPC’s Facebook followers from January 2019 to December 2020

Table 1. Covid-19 related posts by the NPC and user-generated activity between January and December 2020

Date	Topics	Reach	User activity	
			Post click	Reaction/ comment/ share
13-Mar	Hand sanitizer poisoning	134,600	20,000	3,400
24-Mar	Turning wet tissue into face mask (video)	2,900	116	154
25-Mar	Hand sanitizer and you (safe storage)	11,200	750	258
26-Mar	Poisoning involving children during the movement control order (MCO)	7,500	457	217
28-Mar	Disinfection guide	5,400	267	250
30-Mar	Can 'Health Tag' prevent Covid-19?	1,471,936	227,918	29,727
02-Apr	Do not mix multiple disinfectants together	2,300	421	110
	Ingesting bleach solution to prevent Covid-19 (a hoax)	50,000	6,700	1,400
10-Apr	Household product safety among children (video)	1,000	25	15
	Safety and efficacy of disinfectant tunnel	27,000	1,800	908
15-Apr	A statement by the Ministry of Health Malaysia (MOH) on disinfectant tunnel	2,300	185	242
05-May	Hand Hygiene Day: WHO Video 1	542	7	7
	Hand Hygiene Day: WHO Video 2	875	37	16
	Hand Hygiene Day: WHO Video 3	1,200	89	29
06-May	Covid-19 Mythbuster	3,000	223	99
07-May	Protect others from getting sick (Hand Hygiene Day)	4,200	45	48
14-May	Majority of household poisoning cases occur at home	1,500	57	54
23-May	Tomorrow is Eid! Where do you keep the sanitizer?	3,500	331	107
05-Nov	Replacing hand sanitizer with floor cleaner	1,258	85	74
04-Dec	Mixing bleach with acidic cleaner	6,833	302	233
18-Dec	Drinking bleach with coffee	5,722	378	187

It could be observed that the key topic which garnered the most interest among the public was regarding health tag as a prevention method for Covid-19. This post reached a whopping 1,471,936 number of people, with 257,645 users' activity. This is followed by hand sanitizer poisoning, which reached 134,600 people and attracted 23,400 users' activity. The third most popular post was regarding a hoax that claimed bleach to be preventive of Covid-19, and this post managed to reach 50,000 people with 8,100 users' activity. Lastly, another interesting topic that attracted much attention was regarding disinfectant tunnel, on which the post reached 27,000 people with 2,708 users' activity.

2.3 Health tag product

The post which attracted the most attention in Malaysia in 2020 was regarding the use of a health tag product, which is a small portable device worn as a name tag around the neck. The trigger factor began when a few public officials in Malaysia were seen wearing the health tag, which prompted an immediate interest by the public. The health tag contains sodium chlorite chemicals which will release chlorine dioxide gas. This product claimed to prevent virus and bacterial infections through the release of chlorine dioxide gas around the wearer for a specified time duration. Many studies have corroborated the effectiveness of chlorine dioxide in inactivating viruses and bacteria (Nishimura, Hayashi, Ura, & Sakata, 2017; Ogata *et al.*, 2016). However, a study by Nishimura *et al.* (2017) tested four similar devices in Japan, and found that these devices produced zero or very low concentration of chlorine dioxide gas, which deemed them ineffective in inactivating viruses or bacteria. Another study, also by Nishimura (2016) found that the product lacked virucidal and bactericidal properties, perhaps due to the lack or only minimal release of chlorine dioxide gas. Therefore,

there is insufficient evidence to support the effectiveness of the health tag in eliminating viruses and bacteria, including the coronavirus. The Facebook post by the NPC was intended to correct the misinformation, due to concerns that wearing the health tag may give false assurances to the wearer that they are safe and protected from Covid-19.

2.4 Hand sanitizer poisoning

Hand sanitizer poisoning was the second topic that attracted the most attention among the public. Though hand sanitizers have been available for years prior to the pandemic, suddenly they garnered intense interest by the public due to Covid-19, whereby global organizations, government agencies and relevant health officials strongly recommended their use for effective prevention of Covid-19 (World Health Organization, 2020c). As most hand sanitizer poisoning cases reported to the NPC involved children of ages from 5 months to 2 years old, the public must be made aware of the potential risk of its accidental ingestion. Mild to moderate ethanol toxicity due to alcohol-based hand sanitizer (ABHS) ingestion may lead to nausea, vomiting, flushing, intoxication, euphoria, lack of muscle control or body coordination, aggressive behavior, and tachycardia. Furthermore, severe intoxication may cause symptoms involving the central nervous system and respiratory system, hypothermia, hypoglycemia, seizures and even coma (IBM Micromedex Web Application Access, 2021).

2.5 Bleach ingestion

In April 2020, former President Trump publicly implied the potential of injecting disinfectant as a method of Covid-19 prevention. The false statement led to a drastic increase in online searches about disinfectants and a surge in

reported poison control cases in the United States, and consequently the statement became worldwide spread misinformation (Rivera *et al.*, 2020). Such hoax statement made a negative impact in Malaysia when the NPC received a case involving a man who deliberately consumed diluted hydrogen peroxide for five consecutive days, with a false belief that such 'preventive treatment' could safeguard him from Covid-19. The said man developed symptoms and was later admitted to the hospital for treatment. Therefore, the NPC took to its Facebook page to clarify the issue in a post. This post became the third most viewed post among the Malaysian public in 2020. Through the post, the public was informed that bleach, and all types of disinfectant products are used for non-living objects only. Ingestion of 10% hydrogen peroxide may lead to caustic injuries of the digestive tract and possible formation of gas bubbles in the bloodstream, which may result in seizure, heart attack and death (IBM Micromedex Web Application Access, 2021).

2.6 Disinfectant tunnel

Another interesting topic that garnered major interest among the Malaysian public was the disinfectant tunnel. Disinfectant tunnel or sanitization tunnel is one of the product innovations created to spray disinfectant automatically when the user passes through the tunnel. Currently, there are no scientific studies and evidence that can support or prove the efficacy and safety of such product (Biswal, Kanaujia, Angrup, Ray, & Mohan Singh, 2020). Although the United States Environmental Protection Agency (USEPA) has listed effective disinfectants for Covid-19 such as ethanol, hydrogen peroxide, glutaraldehyde and sodium hypochlorite, these chemicals are meant for application on non-living objects only. Therefore, they are not suitable to be sprayed directly on the whole body due to possible issues of chemical toxicity or other safety issues (Biswal *et al.*, 2020; United States Environmental Protection Agency, 2021). Thus, this warranted more research to assess the use of these chemicals in a disinfectant tunnel. Side effects of chronic exposure to these disinfectants include irritation of exposed parts, including the eyes, nose and mouth. If inhaled, the patient is at risk of developing respiratory symptoms including cough, shortness of breath, upper airway swelling, and exacerbation of asthma, especially for those with pre-existing diseases such as chronic obstructive pulmonary disease (COPD) (IBM Micromedex Web Application Access, 2021). In addition, the WHO does not recommend spraying the exposed parts of the body with alcohol or chlorine as it does not kill the virus inside the body of an infected person and can be harmful to the mucous membranes of the eyes and mouth (World Health Organization, 2020b). In 2020, a few establishments in Malaysia installed disinfectant tunnels, but as of 2021, no such device was reported to be in use.

3. Conclusions

The unprecedented global Covid-19 pandemic crisis is affecting everyone without discrimination. Accurate information is key to ensuring empowerment of public action and public safety in the prevention of Covid-19. In this digital era heavily influenced by social media, information is abundant and spreads rapidly, and there is no limitation to

information sharing, regardless of whether it is true or false, so people are susceptible to influences of misinformation. Regarding products lacking evidence of efficacy against Covid-19 eradication, the concern is that consumers' trust in the product will make them feel safe and protected from infection, causing them to ignore the effective preventive measures recommended by government authorities. Therefore, the importance of social media to disseminate accurate information to the public should be emphasized. The NPC as an apolitical and dependable national organization realized their role in providing reliable health-related information to the Malaysian public, and it shall continue to tackle all major poisoning and misinformation issues in the country, using various avenues including social media such as Facebook, Youtube, Twitter, and Instagram.

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