

Perceptions of public on the COVID-19 outbreak in Singapore: a qualitative content analysis

Shefaly Shorey¹, Emily Ang¹, Amira Yamina¹, Clarence Tam²

¹Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore 119077, Singapore

²Saw Swee Hock School of Public Health, National University of Singapore, Singapore 119077, Singapore

Address correspondence to Shefaly Shorey, E-mail: nurssh@nus.edu.sg, nuranke@nus.edu.sg, amirayamina@gmail.com, clarence.tam@nus.edu.sg.

ABSTRACT

Background Singapore is among the several countries affected by the COVID-19 outbreak. The outbreak has elicited panic and unease among Singapore's public. This study aimed to analyze the comments left on local media news outlets to find common concerns and discuss potential new measures that can be developed to reduce panic and support for Singapore's public during and beyond COVID-19.

Methods A qualitative content analysis on the comments on relevant news articles from the Facebook pages of six online local news publications dated from 23 January 2020 to the 3 April 2020 was carried out.

Results Five common themes were derived¹: fear and concern (35.42%),² panic buying and hoarding (21.21%),³ reality and expectations about the situation (20.24%),⁴ staying positive amid the 'storm' (10.07%) and⁵ worries about the future (5.01%). The analysis revealed that fear and concern were the main reasons behind the public's responses.

Conclusion Clear communication between the government and the public is one of the best ways to maintain calm among the public and to contribute to greater social cooperation. Timely updates and support measures from the government further help to maintain social peace and cohesion.

Keywords coronavirus, COVID-19, pandemic, Singapore, qualitative content analysis

Introduction

An unknown pneumonia-like disease that first appeared in Wuhan, China, has since been named COVID-19 and declared as pandemic by the World Health Organization (WHO).¹ Singapore is one of the countries that has reported both imported and local cases of COVID-19, and due to the growing number of cases on 7 February 2020, the Ministry of Health (MOH), Singapore, had raised the risk assessment of COVID-19 disease to Disease Outbreak Response System Condition (DORSCON)—orange. The risk assessment was based on a system developed to aid the implementation of preventative measures in case of a disease outbreak.² The four color-coded DORSCON levels of assessment are green, yellow, orange and red, with green representing the lowest severity and chance of a widespread outbreak of the disease and red for the greatest severity and chance of a widespread outbreak of the disease.² After raising the risk assessment to DORSCON Orange, the government implemented strict

measures to reduce community transmissions of the disease. Some of these measures include contact tracing of close contacts of confirmed cases and disallowing big gatherings of people. These measures increased fear and panic among Singaporean public. Despite efforts to slow the spread of the disease the number of community transmissions grew and on 3 April 2020, the Singapore government had announced a stricter measure to contain the virus called 'circuit breaker' also known as social isolation in some countries. The circuit breaker called for stay-at-home orders for all citizens and movement outside was limited to basic necessities such as buying food and groceries. It also led to home-based learning

Shefaly Shorey, Assistant Professor

Emily Ang, Professor and Head

Amira Yamina, Research Assistant

Clarence Tam, Assistant Professor

for all schools, increased work from home orders and the closure of most businesses and services apart from those deemed essential.³

The public was kept constantly informed of the situation via various media channels. However, extensive media coverage of the pandemic has been found to be both beneficial as it encourages precautionary and preventive measures against the virus as well as harmful as it amplifies stress and apprehension towards the disease spread.⁴ Therefore, it is important to understand the public's concerns during pandemics so that new measures may be introduced to reduce panic and maintain mental health and social harmony among public during and beyond pandemics such as COVID-19.

Methods

Sampling

This study used the qualitative content analysis⁵ method to analyze the comments made on online local media outlets to find common concerns shared by Singapore's public. Convenience sampling was employed to analyze 2075 comments across the 29 articles related to COVID-19 from 23 January 2020 (first case of COVID-19 detected and announced in Singapore) to 3 April 2020 (announcement of circuit breaker), from all local news channels with Facebook pages in Singapore, including Channel News Asia, The Straits Times, TODAY, The New Paper, Mothership SG and The Independent Singapore.

Data analysis

All comments were de-identified and were extracted, read and categorized via inductive category development.⁶ An example of the data extracted from one of the news channels is presented in Supplementary File 1. A qualitative content analysis was carried out on the categorized comments.⁷ The inductive process of the content analysis was performed by two researchers independently, and frequent meetings were held to discuss the themes. Discrepancies were resolved via prolonged discussions.

Results

The five main themes derived from the qualitative thematic analysis are presented in Figure 1. The themes were¹ fear and concern (35.42%),² panic buying and hoarding (21.21%),³ reality and expectations about the situation (20.24%),⁴ staying positive amid the 'storm' (10.07%) and⁵ worries about the future (5.01%).

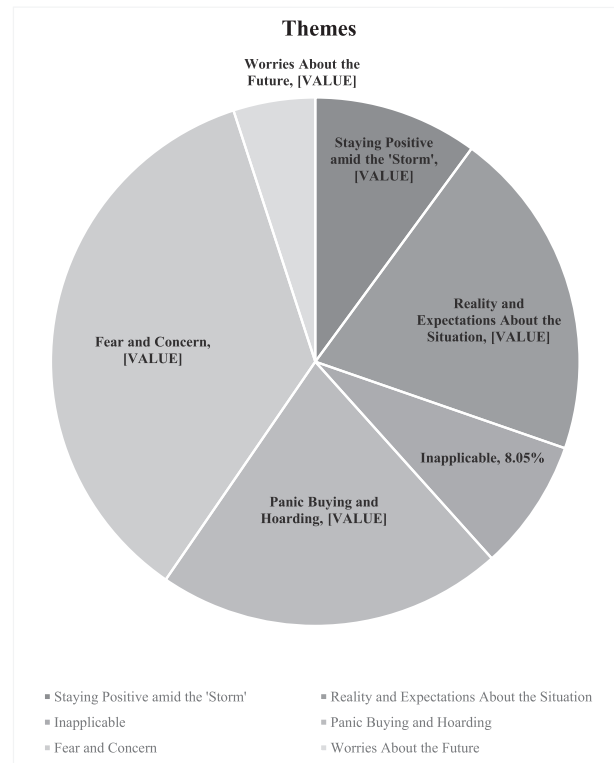


Fig. 1 Distribution of themes across the comments analyzed in percentages (%).

Theme 1: fear and concern

Fear and concern were identified in an overwhelming tone in the majority of the online readers' comments (735 comments of the 2075 comments analyzed).

With first few confirmed cases being imported cases, Singaporeans grew wary of virus transmissions via tourists. Online readers wrote comments about avoiding tourist attractions and areas that were visited by confirmed cases. One such comment stated:

'Avoid all tourist attractions places supposing [that those who have the virus had] already visited some.'

Many comments expressed great worries about how to curb the spread of the virus in public transports. Public transports were often crowded and thus made it difficult to observe social distancing and increased the amount of close contacts between the public. One of the commenters stated that it would be 'unavoidable':

'Singapore [is] really too small, too crowded. ... public transports [such as buses], Metro Rail Transit (MRT), and taxis ... Unavoidable ...'

In many comments, people seemed to be worried about contracting the virus from sick colleagues. Many felt that it

was Singapore's work culture that had contributed to this increased fear:

'I think this is our work culture coming back to bite us . . . We like to go to work despite being sick.'

Theme 2: panic buying and hoarding

There were mixed opinions regarding panic buying and hoarding groceries (441 comments of 2075 comments analyzed). Many defended such behaviors while others believed that these were selfish acts that would lead to greater troubles. Several Singaporeans were quick to stock up on essentials out of panic that supply chains would be cut-off.

'This is normal . . . They (the government) say [that] there will be no shortages but there are shortages . . . its ok to stock up . . .'

Many comments expressed that panic buying and hoarding mentalities would be the causes of shortages in supplies and were glad when enforcements were put in place to limit the number of essential products that individuals could buy. One particular comment remarked that these behaviors were 'ugly sides of panicking.'

'It is okay if we store some for crisis time [sic], but it is not okay to hoard the food and [be] proud of doing [so]. Good that Government is putting limits on number of buys...but how can Government control many members from the same family from buying multiple times . . .'

Themes 3: reality and expectations about the situation

The commenters expressed confusion over the reality and expectations of the COVID-19 situation in Singapore (420 comments of 2075 comments analyzed). Several comments expressed questions regarding the timelines of the preventative measures and suggested that certain restrictions and rules could have been in place earlier to reduce the spread of the virus.

' . . . Government was confused regarding Mask. First say don't wear, then wear . . . it leads to the fast spread of virus . . .'

Many commenters expected the virus to arrive in Singapore shortly after its outbreak in China. Singapore is a tourist hub with a great influx of visitors coming into the country every day. However, the commenters were confused by the lack of travel restrictions.

'Sadly . . . It was inevitable, but it is high time to stop all the incoming flights!'

Theme 4: staying positive amid the 'storm'

Many Singaporeans were keen on keeping positive amid the outbreak as supportive, and encouraging comments towards the government's actions to safeguard the well-being of the people and the country were evident (209 comments of 2075 comments analyzed).

'Have faith that our government is consulting with real epidemiologists, the WHO, and trained economists. We have learned from SARS and H1N1 We will weather this storm.'

Commenters were also greatly appreciative to frontliners, including healthcare staff, who were the ones working consistently to curb and contain COVID-19 in Singapore.

'To our brave healthcare workers, nurses, [and] doctors, the whole of this country supports you.'

Theme 5: worries about the future

After the circuit breaker was announced, the commenters showed concerns regarding the new regulations and the future ahead (104 comments of 2075 comments analyzed). While many were grateful for the new measures, others felt that it was inconvenient and were especially worried about the affected businesses.

'We are happy that we are safer at home . . . but . . . How are we going to be able to take care [of our children] if our jobs [are] outside?'

Some were concerned about affected businesses and a few shared worries about future ahead.

'We are so concerned with CB (circuit breaker) . . . Have you all thought where are we heading to? What would be our new lives . . . ? I am worried. Working from home may be a new norm . . .'

There were around 8% of the comments which were irrelevant to the COVID-19 pandemic and mostly focused on politics and other current affairs and were not included in the analysis and discussion of this study.

Discussion

Main findings of this study

This study explored the views and concerns of the general public during the COVID-19 outbreak in Singapore. The general tone of the analyzed comments varied from fear and concern to more specific feelings of confusion and displeasure towards the COVID-19 outbreak in Singapore.

Unique to this study, many commenters expressed fears of contracting the virus from colleagues. In Singapore's work culture, it is not uncommon for employees to report to work while on medical leaves.⁸ As the symptoms of COVID-19 are majorly alike the common cold and seasonal flu,⁹ this increased the fear that some colleagues may unknowingly have the virus and spread it to their close contacts at work. Especially in contract work positions, according to the Ministry of Manpower (MOM), an employee must have served his or her employer for at least 3 months before being eligible for paid sick leave.¹⁰ Therefore, workers might choose to go to work so that their incomes are not compromised. It was evident that this old work culture posed as a new threat during the new normal of COVID-19 pandemic.

The raise in the risk assessment to DORSCON Orange had caused panic among Singaporeans, and many resulted in hoarding of supplies under the impression that supply chains may be disrupted. A possible explanation for such behaviors may be that many Singaporeans had noticed the extent of severity that the disease had on regular lives based on the impact of the virus in other countries such as China.¹¹ In the earlier days of the outbreak, surgical and N95 face masks also were quickly wiped off shelves and were not replenished for several weeks despite assurance that there was a sufficient supply of face masks.¹² Many netizens commented that due to their experiences of difficulties getting face masks, they were more panicked whether the same would happen to food supplies and therefore resulted in hoarding essential food supplies.

Despite the general feelings of fear, there were a group of commenters who believed that the outbreak of COVID-19 in Singapore was expected and would have occurred sooner or later. Tourism in Singapore contributes largely to the country's economy,¹³ thus supporting many netizens' beliefs that it would be highly unavoidable that the virus does not enter the country. There was a percentage of positive comments of appreciation, encouragement and support to the government, healthcare workers and fellow Singaporeans. In comparison to the SARS outbreak in 2003 in Singapore, most commenters felt that improved steps had been taken to handle COVID-19 in Singapore. Internationally, Singapore was applauded for the way that it had handled the COVID-19 outbreak.¹⁴ Although there were comments that stated that more could have been done, no additional measures were discussed or suggested by commenters.

The circuit breaker movement brought mixed response of gratitude and confusions. While many commenters were thankful that this will keep people safe at home, others were unsure of what life would be beyond circuit breaker. Parents had concerns regarding the necessity and lack of devices

such as laptops for both home-based learning and work-from-home orders. These concerns and questions were addressed by the government as special arrangements were made for families who needed additional support for home-based work and learning. This highlights the Singapore government's well-thought implementations and attention to the feedback provided to reduce distress in Singaporeans. A few netizens showed concerns about the uncertainties ahead and life after the COVID-19 pandemic. The concerns of these visionary netizens seemed appropriate as the answers to these uncertainties are something that the world is searching now.

In comparison to other countries that were affected by the COVID-19 outbreak, the impact of COVID-19 may seem less dire in Singapore. This could be due to the well thought out actions and preparedness of the government. The government had timely addressed the public's concerns by covering costs for testing and treating COVID-19, restricting movement and temporarily closing institutions and workplaces such as schools and offices. The government also gave out financial aid and encouraged companies to keep up employment to save jobs. Singapore is a small city-state and its size may have also contributed to precautionary implementations and containment of the virus being effective.

What is already known on this topic

Previous studies and theories can be referenced to support the public's perception of the COVID-19 outbreak. COVID-19 spreads from human to human in close contact,¹⁵ and studies show that an infected person who is asymptomatic or with symptoms that have yet to show may still be contagious.^{16,17} However, the mode of transmission, whether airborne or through droplets, is still under study.¹⁸ Thus, justifying the public's concerns.

Sickness presentism is the act of attending work despite exhibiting symptoms of ill health.¹⁹ In a study by Lu, L. Cooper,²⁰ comparing presentism cross-culturally, Chinese employees were more likely to show up for work despite having compromised health compared to British employees. These Chinese employees were most likely reliant on sickness presentism as a strategy to protect their jobs as diligence and hardworking qualities are highly emphasized in the Chinese culture.²⁰ This may explain certain aspects of the working culture in Singapore as there are many shared Asian values.

The attachment theory²¹ theorizes that each human naturally possesses a psychobiological system that protects survival that remains throughout one's livelihood. The social defense theory, which is an extension of the attachment theory,²² proposes the differences in individuals based on their security and insecurity levels.²³ Secure individuals exhibit

better adaptive qualities²⁴ and work more cohesively with others^{23,25}, while insecure individuals tend to be more sensitive to threats to their survival.²³ This could be the reason behind public's varied reactions towards the pandemic. Though the majority of them were fearful, there were some who remained calm and lead others towards peace.

Healthcare workers encounter high stress, exhaustion and detrimental impacts on their mental health during a pandemic.^{26,27} Encouraging comments and clear communication with healthcare professionals have been found to support their mental health and well-being.²⁸ Providing positive feedback and showing gratitude also help to lift one's mood and have been found to be beneficial to ensure mental well-being during stressful situations such as pandemics.²⁹ Hence, sharing the public's gratitude with the healthcare workers might be a good way to boost the morale of frontline workers.

What this study adds

This study revealed potential underlying reasons for the reactions of the public. There are lots of uncertainties about the virus's transmission and incubation period, which may have caused fears and concerns among the general public. Sickness presentism¹⁹ posed as a new threat as unwell colleagues may be infected with COVID-19 and may have unknowingly infected their close contacts at work. This finding in the content analysis highlights the need for changes in mindset regarding the work culture in Singapore. This could be done, for example, by employers assuring their employees that taking medical leaves while unwell will not put them at a compromise at work. To bring about societal changes, campaigns from the government's agencies can be more effective in enhancing the public's awareness and assurance that staying at home while sick is encouraged and legislated.

The attachment theory²¹ and social defense theory²² suggest reasons behind the actions of different personality types in a situation such as the COVID-19 outbreak. The findings from this study also identified future measures that could be developed to keep the public calm and well informed. Based on the findings in this content analysis, fear was prominently shared by the public. Public health professionals could develop informational programs on the progress of the disease and emergency preparedness to protect the health of the people and prevent misinformation that can contribute to increased fear. The healthcare professionals could develop and evaluate the educational programs and make them readily available to combat stress and anxiety among public visiting them in the healthcare facilities. The routine assessment for stress and anxiety should be made available especially during the pandemics.

Similarly, public-school officers should routinely assess and support students from all age groups in terms of their emotional well-being and run routine drills to keep the students educated about the evolving pandemic conditions. This can help them better understand the situation and adapt their learning accordingly. Such measures could also help reassure parents that their children and their schools are well prepared and are taking the necessary precautions as needed.

Government officials may also put up a frequently asked questions page or a page on a secure government site where netizens can ask questions and get timely answers to maintain reassurance and calm among distressed individuals. Uses of technology to maintain close communications between government officials and the public may be the new norm in the future.

Limitations of this study

This study only analyzed comments from articles that were based in Singapore and how the COVID-19 pandemic had influenced Singaporeans, which limits its generalization. A further analysis and a cross analysis can be done by including the comments left on local media pages under articles on the COVID-19 from other countries. This can allow a multinational representation of public views regarding the COVID-19 pandemic. Future studies may also look into understanding the impact of the outbreak on specific groups of individuals, such as those from essential services, including medical and nursing staff, allied staff and students enrolled in healthcare-related courses. Understanding the impact of the outbreak on frontline healthcare workers and future healthcare workers can possibly contribute to the triangulation of findings and further development of the healthcare sector in case of a future pandemic. Another limitation was that this study was conducted only by analyzing written comments. Future studies can triangulate findings by collecting quantitative data via specially developed questionnaires to measure psychosocial wellbeing, coping and other outcome variables such as sense of coherence. Additionally, qualitative data via face-to-face interviews may further value add to understand Singaporean public's responses while going through the pandemic by picking up vocal tones and non-verbal cues such as gestures to add to the data set.

In conclusion, this study highlighted that many Singaporeans were vocal about their opinions online and that social media was a convenient platform to understand the concerns and questions that the general public possesses. Clear communication and uses of technology may help to narrow gaps between government officials and the public to maintain a cohesive society during the COVID-19 pandemic and beyond.

Supplementary Data

Supplementary data are available at the *Journal of Public Health* online.

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