Original Research Article

Change In Risk Perception and Behavior of the People of India during the COVID-19 Pandemic

Anushri Soni[1], Fagun Shah[2], Ashni Dharia[3], Adnan Kadiani[4], Henal Shah[5]

[1,2,3]Intern, Topiwala National Medical College and BYL Nair Charitable Hospital, Mumbai.
[4]Assistant Professor, Department of Psychiatry, Topiwala National Medical College and BYL Nair Charitable Hospital, Mumbai.
[5]Professor, Department of Psychiatry, Topiwala National Medical College and BYL Nair Charitable Hospital, Mumbai.
Corresponding author: Henal Shah
Email – drhenal@gmail.com

ABSTRACT

Background: On 25th March 2020 the COVID-19 pandemic had affected more than 600 individuals across India and a nationwide lockdown was imposed. Although the number of active cases kept on increasing the government had to keep relaxing the lockdown as the months passed expecting people to continue practicing the COVID-19 mitigating behaviours. Various dynamic factors like risk perception are shown to determine the degree to which people practice the mitigating behaviours. We aimed to study the degree to which the practice of COVID-19 related mitigating behaviours has changed amongst people of India over a period of 5 months from lockdown to Unlock and the factors associated with it. The aim of the study was to study and compare the change in behaviour among different groups of people towards the COVID-19 pandemic from the period of the lockdown 1.0 (25th March 2020 to 31st May 2020) to 1st September 2020 onwards in terms of precautions adopted by them.
Methodology: The nature of this study is cross-sectional, and it is an online-based survey. We conducted a cross-sectional observational study using an anonymous online questionnaire (which was divided into 3 sections) about demography, change in adoption of protective measures against the COVID-19 infection, change in avoidant behaviour towards the potential sources of infection, change in their perception of risk of the infection, and the probable reasons for this change. In all question participants were asked to choose the answer that best reflects the change in their behaviour that might have occurred from the time of strict nationwide lockdown (25th March – 31st May 2020) to Unlock 4.0 (1st September 2020 onwards). The data was entered and tabulated using EXCEL 2020 and was analysed using SPSS Version 22.0. Comparisons were done using Chi-Square test. Results of analysis have been expressed as percentages.
Results: The total number of participants in our survey after applying the inclusion and exclusion criteria was 1030. Subjects demonstrated decreased practice of most COVID-19 mitigating behaviours as the pandemic progressed with the exception of use of sanitises and wearing of masks. The mitigating behaviour which decreased the most was social distancing as almost two third participants went out for non-essential activities more than before. Risk perception of the illness seems to be the most important predictor of health-related protective behaviour. Perceived susceptibility of self and loved ones was not associated with change of behaviours, however, decrease in perceived severity of illness for themselves and family members is associated with significant decrease in practicing COVID-19 behaviours.
Conclusion: Our results have implications on our understanding of how mitigating behaviours and risk perception can target public education and health policies.

Keywords: Survey, Lockdown, Unlock, Protective, Avoidant, Risk Perception, COVID-19, Pandemic

(Paper received – 28th August 2021, Peer review completed – 15th September 2021)
(Accepted – 20th September 2021)

INTRODUCTION

17th November 2019 witnessed the birth of coronavirus and the disease it caused, COVID-19, was declared a pandemic when 118,000 cases and 4291 deaths were reported across 114 countries on

March 11th 2020 [1-2]. To minimise transmission, WHO released information on mitigating behaviour, which can be further divided under the sub-headings protective, avoidant and management behaviour respectively [3].

On 25th March 2020, when India had more than 600 cases, a nationwide lockdown was declared [4]. It restricted people from stepping out for anything barring essential activities and even then, wearing a mask and social distancing was mandatory. With minor exemptions, this continued till June 1st. After which, despite a daily increase in the number of cases, Government started "unlocking" the country in sequentially relaxed, monthly phases to recover the economic loss. The 63 lakh active cases at the end of Unlock 4.0 on 30th September reiterated the need to practise mitigating behaviours with just as much sincerity [5-6].

Previous pandemics have shown that psychological factors, such as, perceived susceptibility to an infectious disease and perceived severity of its symptoms, govern an individual's behaviour [7-9]. These perceptions tend to be dynamic, and as a consequence the mitigating behaviours can too change over time. A survey on change in COVID-19 mitigating behaviours in the US conducted over a period of 3 months found that over time wearing masks increased where as other protective and avoidant behaviour had decreased or remained the same [10].

Other research has produced contradictory results; during the H1N1 pandemic, Bahrain continued to strongly adhere to all personal protective and preventive behaviours [11] where as Hong Kong, though the survey participants continued hygienic practices and wore masks, they could not keep up with social distancing [12].

In India, a densely populated developing country, it is essential to know factors that influence people's behaviour apart from government restrictions , because restrictions are not feasible for an extended period of time over here [13].

Thus, we aimed to study the change in COVID-19 related mitigating behaviours amongst people of India over 5 months as this would have direct consequences on the course of this and future pandemics.

METHODOLOGY

This cross-sectional observational study used an online questionnaire designed by the investigators to collect data from respondents across India. This questionnaire was created using Google forms. Potential respondents were sent the link via social media (WhatsApp, Facebook, Instagram, Twitter posts) and asked to participate in the study with utmost sincerity. Convenient sampling technique was employed to recruit more participants. Participants were encouraged to further share the link with their contacts. The link was first auto-directed to a page explaining the nature of the study. Informed consent was taken from all willing participants.

The inclusion criteria for the study were:

1. Participants must be over 18 years of age.
2. Participant must not have left India since the beginning of the lockdown 1.0 (25th March 2020).

The exclusion criteria were:

1. Those who were unwilling to give consent.
2. Those who could not read and/or understand the questionnaire.

The questionnaire was divided into 3 sections. The first section comprised of questions collecting demographic information, status of work during the pandemic, and presence of risk factors for severe COVID-19 illness in the participants and their family members.

The second and third sections contained multiple choice type questions related to the changes in their behaviour and risk perception. Risk perception towards COVID-19 was measured using two parameters- 1) perceived susceptibility, and 2) perceived severity. Perceived susceptibility was assessed by asking them how likely are they or their family to get infected by COVID-19, while the perceived severity was assessed by asking how serious do they think COVID -19 is and their perceived chances of surviving a COVID-19 infection.

The forced choice statements were in order of "More than before", "Less than before", "Same as before", "Never practiced/experienced this". In every question participants were asked to choose the answer that best reflects the change in their behaviour that might have occurred from the time of strict nationwide lockdown (25th March – 31st May 2020) to the present day i.e. from Unlock 4.0 (1st September 2020 onwards). Participants were also asked to mention the reasons responsible for this change.

It was compulsory to answer all questions and only one response per person was admitted. The questionnaire was made available in Hindi, English and Marathi. The questionnaire was created in English and then translated into Hindi and Marathi. This was translated back to English to ensure that the essence of any question was not lost in translation. Response collection was carried out over a pre decided period of one month.

The data was entered and tabulated by using EXCEL 2020 and was analyzed using SPSS v.22. Results of the survey were expressed as percentages. Associations between different variables were analyzed using Chi square test.

RESULTS

The total number of participants in our survey after applying the inclusion and exclusion criteria was 1030. Collected data were post stratified with respect to gender by age group and gender by degree holding status within the country. [Table 1]. Subjects were young on an average, amongst which maximum were clustered in the 18 to 30 age group. 56.3% of the respondents were males and 43.2% were female. 0.5 percent preferred not to reveal their gender.[Table 1].

The subjects were distributed all across the country. The majority, 64% , belonged to Maharashtra. When asked about the highest level of education they had achieved, the following results were obtained. In terms of profession, 30.4% turned out to be health care workers. 30.9% of the respondents travelled to their workplace during the lockdown while the percentage increased to 49.7% since Unlock 4.0.[Table 1]. When enquired about probable factors correlating behaviour and risk perception towards COVID-19, 15.2% subjects reported having comorbidities that put them at a higher risk of severe illness from COVID-19 whereas 40% reported residing with family members who had these comorbidities. 48.4% reported residing with family members of age 60 years or more.

3.5% had been diagnosed with some mental illness in the past and 2.2% were currently on some psychiatric medication [Table 1]. When asked about living conditions, 70.6% had provisions, i.e., a separate room with an attached bathroom, where they could effectively home quarantine themselves if the need arose. The residences/localities of 43.8% subjects had been declared as COVID-19 hotspots or containment zones on at least one occasion; whereas 28.9% had their societies or floor of residence sealed by authorities due to COVID-19 cases.[Table 1]

Results for questions on protective behaviours [Table 2][Figure 1]

We found that for the question "washing hands on coming home from outside", 44.3% reported doing so less than before, other questions on washing hands had similar results.41.5% reported that they washed their hands less than before after coughing and sneezing into them and 44.7% reported that the amount of time they spend while washing hands is now less than before.

When asked about the use of hand sanitizers when outside 44.2% replied they used sanitizers more than before, however when asked if they still sanitized the goods which came into their house, 64.7% replied that they do it less than before. Around 67.7% reported that they wore their mask while leaving the house same as before however as many as 41% report that they removed their mask while talking to someone due to unclear voice and discomfort.

Results for questions on avoidant and management behaviours [Table 2][Figure 1]

When asked if they go out now more for non-essential activities, 78.3% said that they do so now more than before and around 48.4% of them said that they now practised social distance in public

places less than before. 43% report that they now took vitamins supplements/home remedies less than they used to at the start of the pandemic

Table 1: Sociodemography of patients and their families.

Age	
18-29 years	392 (38.1%)
30-44 years	291 (28.3%)
45-59 years	310 (30.1%)
Greater than 60 years	037 (3.6%)
Sex	
Male	580 (56.3%)
Female	445 (43.2%)
Prefer not to say	005 (00.5%)
Highest level of education	
Have not completed 10th standard	6 (0.6%)
10th standard	12 (1.2%)
12th standard	299 (29%)
Bachelor's degree	441 (42.8%)
Master's degree	247 (24%)
Ph.D. or higher	25 (2.4%)
Are you a healthcare worker	
No	717 (69.6%)
Yes	313 (30.4%)
Do you have a separate room with an attached bathroom to self-quarantine yourself if the need arises	
No	303 (29.4%)
Yes	727 (70.6%)
Has your area of residence/locality ever been declared as a COVID-19 hotspot/containment zone	
No	579 (56.2 %)
Yes	451 (43.8)
Has your society/floor of residence ever been sealed by authorities due to COVID-19 cases	
No	732(71.1%)
Yes	298(28.9%)
Do you have any comorbidities that put you at higher risk of severe illness from COVID-19	
No	867 (84.2%)
Yes	163 (15.8 %)
Do your family members living with you have any comorbidities that put them at higher risk of severe illness from COVID-19?	
No	614 (59.6%)
Yes	416(40.6%)
Do you have any family members of age 60 years or more residing with you	
No	505 (49%)
Yes	525 (51%)
Did you go to your workplace during the lockdown? (Work from home not included)	
No	559(54.3%)

Yes	318(30.9%)
Not applicable	153(14.9%)
Do you go to your workplace now? (Work from home not included)	
No	352(34.2%)
Yes	512(49.7%)
Not applicable	166(16.1%)

Results of associations of mitigating factors and demographics [Table 2]

For the respondents who reported yes on living with family members who are above 60, almost 33% reported to be washing hands after coming from outside in the same way as before and another 33% actually washed their hands more than before, this difference being statistically significant (p value<00.1). Similar statistically significant associations have been found for all other COVID-19 mitigating behaviours. Respondents who mentioned that they lived with family members with known medical comorbidities were associated to have larger number of same as before/more than before responses to behaviours for hand washing on coming home from outside, washing hands after coughing and sneezing, amount of time spent washing hands, using hand sanitizer when outside, wearing mask while leaving the house, removing mask when people are around, going out for non-essential activities and practising social distancing in public places (p value <0.01).

Results of associations of Mitigating factors and Risk perception [Table 2]

Our analysis of the risk perception of the participants found that 60.4% now feared getting infected with the virus more than they used to during the lockdown and 62% of participants reported that their fear of loved ones getting infected is more than before. However only 14.8% report that their fear of dying has increased and 31% report that their fear of their loved ones dying has increased. The fear of themselves or family members getting infected has not been associated with the change in any of the mitigating factors. However decrease in fear of death has been associated with reduced practice of protective behaviours. These behaviours include hand washing on coming home from outside, after coughing and sneezing, amount of time spent washing hands, using hand sanitizer when outside, wearing mask while leaving the house, removing mask when people are around, going out for non-essential activities and practising social distancing in public places (p value <0.01)

Table 2. Reasons as chosen by participants that led to a change in their mitigating behaviour.

	Percentage that chose this option	Percentage that did not choose this option
I think the pandemic will not come to an end so life has to go back to normal	48.3	51.7
I am tired of practicing precautionary measures	35.8	64.2
I believe what's written in my destiny cannot be changed	56.9	43.1
I don't think COVID 19 can affect my health severely	46.1	53.9
My individual efforts will not help when everyone else has stopped adopting protective measures	61.3	38.7
I think the pandemic will come to an end soon	77.1	22.9
I think COVID 19 can affect my health severely	71.1	28.9
I am at a greater risk now than before because my work has resumed	62.3	37.7
Number of cases is increasing sharply	77.1	22.9
A family member/ a friend has tested positive for COVID 19	57.2	42.8

Results on reasons selected for change in behaviours [Table 3][Figure 2]

The participants were asked to pick the reasons they believed have led to a change in behaviour in any of the parameters from a set of options. We found that the option selected by maximum number of participants (64%) was "I am tired of practicing precautionary measures". Around 54% selected the option "I don't think COVID-19 can affect my health severely" and another 52% ticked the option "I think the pandemic will not come to an end so life has to go back to normal". The option "I believe what's written in my destiny cannot be changed" was picked by 43% of the participants.

Table 3: Change in their mitigating behaviour as chosen by participants

	Less Than Before	More Than Before	Never Practised	Same As Before
Washing hands on coming home from outside	44.3	22.4	0.2	33.1
Washing hands after coughing/ sneezing into your hands	41.5	25	3	30.5
Amount of time you spend each time you wash your hands	44.7	28.3	0.3	26.7
Checking latest information and numbers on COVID19 cases	69.1	7.7	7.6	15.6
Using hand sanitizer when you are outside	33.6	45.7	2.2	18.4
Sanitising the goods which are brought into the house	64.7	13.1	7.5	14.8
Wearing a mask while leaving the house	22.4	8.7	1.2	67.7
Removing your mask when around someone Eg. Due to discomfort , for clear conversation etc	20	41	25.6	13.3
Taking home remedies, vitamin supplements for protection against COVID-19	42.9	19.6	14.7	22.8
Going out for non essential activities Eg.for meeting friends and relatives	12.3	78.3	0	9.4
Practicing social distancing in public places	48.4	26.2	0.9	24.5
Fear of getting infected with COVID-19	18	60.4	3	18.6
Fear of dying due to COVID-19	47.6	14.8	16.4	21.3
Fear of your loved ones getting infected with COVID-19	17.3	62	2.7	18
Fear of your loved ones dying due to COVID-19	38.2	31.1	10.7	20.1

DISCUSSION

A general trend that can be observed from the results is that most participants had decreased practicing COVID19 mitigating behavior over the course of these 5 months. An exception was that most people use sanitisers more often now when they stepped out of the house [Table 3], this could be because people have started moving out of their house now more often in the Unlock due to lifting of restrictions, and most places like offices, restaurants, airports and shops have made it mandatory to sanitise hands before entry [12-14]. Another COVID-19 behaviour that did not decrease was the usage of masks- nearly two thirds of the respondents still wore a mask while leaving the house just like they used to before, it is worth noting that majority also reported that they removed the mask while talking to people because of unclear voice or discomfort. [Table 3]. These findings could lead us to believe that the most likely reason why people still wore a mask while leaving the house was because it was still strictly enforced by the law and that people were fined if found without a mask in public places [16-17].

It is interesting to note here that the adherence to wearing masks could be due to fear of laws rather than fear of the virus itself. The mitigating behaviours worst affected were found to be the

avoidant behaviours. Around half of the participants did not practice social distancing anymore and almost two third reported going out for non-essential activities more often than before. [Table 3]. Findings of a study in Hong Kong during the Influenza A pandemic had similar findings. They found that over the course of many months of the pandemic the social distancing declined whereas use of hygiene measures and face mask did not decrease significantly.[10] It seems relevant to point out that on an average, there are more than 380 people living per square kilometre in India, making it extremely difficult to effectively practise social distancing. Thus there is the possibility that despite the wish to practice social distancing, population constraints did not allow Indians to effectively do so [18].

The factors which predict the adoption of health-related protective behaviours can be demographic and psychological [19]. We attempted to study the factors involved in the change in behaviour. The risk perception of the illness seems to the most important predictor when it comes to health-related protective behaviours. Risk perception can be understood as comprising of perceived susceptibility and perceived severity [20]. We found that as the number of cases kept on increasing over the months, the fear of getting infected had increased in over 60% of our study population yet almost 50% of them reported that their fear of dying from the infection was now less than it used to in the initial stages of the pandemic [Table 3]. Similar findings were seen when it comes to perceived susceptibility and severity of disease in loved ones [Table 3]. Even as the fear of getting infected has increased, the fear of dying has decreased from before. Various factors like more information on the course of the infection, better medical resources and stories from patients who have recovered could explain why the perceived severity of the infection appears to have decreased.

Perceived susceptibility of disease in oneself and loved ones was not associated with the change in any of the COVID-19 mitigating factors; however a decrease in the perceived severity of the illness was associated with a significant decrease in practising all the COVID-19 mitigating behaviours. [Table 3]. Even among those with increased perceived severity, more people feared for family members than for themselves [Table 3]. The caveat here could be that most of our participants belonged to a younger age group [Table 1] and hence it can be assumed that they could be living with the elderly age group which is known to be at a higher risk of suffering from a more severe form of the disease [21]. This could also explain why the practise of most mitigating behaviours was the same or even increased in participants who had elderly members in their house or those with known comorbidities [22].

A Large number of previous studies and models have established that both perceived susceptibility and severity of the illness are important predictors for health-related behaviours [7,23]. Yet the findings of our study are similar to a study done in China which found that over time, perceived susceptibility had minimal effect on protective behaviours whereas perceived severity could encourage protective behaviours [24]. To understand why perceived severity is a determinant and perceived susceptibly is not, we need to examine a couple of other factors which could also play a role, namely response efficacy and self-efficacy. Self-efficacy is the extent to which people believe they can cope with the task/stressor at hand, whereas response efficacy is the extent to which people believe the task they are doing will benefit them [25].

The reasons given by the participants of the surveyor their change in behaviour shed some light on what people's belief regarding self-efficacy and response efficacy could be [Table 2]. A large number of participants seem to be tired of practising precautionary measures; they appear to believe that the pandemic will never end and that they cannot change their destiny no matter what they do. A progressive disbelief in the measures they were adopting could explain the noncompliance to mitigating behavior.

The significance of this study lies in the fact that it not only explains the behaviour but also the change in mitigating behaviour among the participants over a period of 5 months. Further, the susceptibility and severity of the disease as perceived by the participant for himself/ herself and for their family has been studied. A co-relation between the changes in behaviour with risk perception has been done.

To summarise, this study reveals that as the COVID-19 pandemic has progressed in India, sizeable changes have occurred in the practice of precautionary behaviour against it. The findings of the

study suggest that the perceived severity of the disease has gone down with time - unfortunately taking away with it the adoption of precautionary behaviour. The majority of the population has shown a decline in almost all protective measures, especially social distancing. However not all changes have been for the worse- wearing masks and sanitisation of hands has gone up or remained the same for the majority in the later stages of the pandemic. Even with the advent of various vaccines, protective measures have still been deemed necessary and will arguably continue to be so in the near future. So, findings of this study are significant as detailed analysis of the behaviours that are changing and the possible reasons for the same will allow us to specifically target these with public education and government policies.

There are several limitations to our work that should be considered. Firstly, our sample size was limited as the survey was restricted only to those who had access to electronic devices and Internet. Secondly, being an optional survey, there is a chance of self-selection bias i.e. the respondents may have been more concerned about the pandemic than those who didn't respond which may result in reporting higher degree of risk perception and/or precautionary behaviour. Thirdly, the median age of our sample is relatively young. Young people have a higher likelihood of engaging in social contact and thus are also typically the primary target to encourage social distancing. However, most of our results do not appear to be highly dependent on age. Next, since this was a retrospective survey, there could be a possibility of recall bias. Lastly, options in the form of forced choice statements may be interpreted differently by respondents giving rise to unclear results.

REFERENCES

1. Venkatraman P, Sahay JJ, Maidili T, Rajan R, Pooja S. Breakthrough of COVID-19 using radiotherapy treatment modalities. Radiother Oncol 2020;148:225-6.
2. Vidal-Alaball J, Acosta-Roja R, Hernández NP, Luque US, Morrison D, Pérez SN, et al. Telemedicine in the face of the COVID-19 pandemic. Atencionprimaria 2020;52(6):418.
3. Zickfeld JH, Schubert TW, Herting AK, Grahe J, Faasse K. Correlates of health-protective behavior during the initial days of the COVID-19 outbreak in Norway. Front Psychol 2020;11.
4. Sivakumar A. Review of mathematical models to predict the rate of spread and control of COVID 19 in India. Bulletin of the World Health Organization. 2020.
5. Siddiqui AF, Wiederkehr M, Rozanova L, Flahault A. Situation of India in the COVID-19 pandemic: India's initial pandemic experience. Int J Environ Res Pub Health 2020;17(1):8994.
6. Somani M, Srivastava AN, Gummadivalli SK, Sharma A. Indirect implications of COVID-19 towards sustainable environment: an investigation in Indian context. Bioresource Technol Rep 2020;11:100491.
7. Bish A, Michie S. Demographic and attitudinal determinants of protective behaviours during a pandemic: A review. Br J Health Psychol 2010;15(4):797-824.
8. Hutchins HJ, Wolff B, Leeb R, Ko JY, Odom E, Willey J, et al. COVID-19 mitigation behaviors by age group—United States, April–June 2020. Morbidity Mortality Weekly Report 2020;69(43):1584.
9. Janahi E, Awadh M, Awadh S. Public knowledge, risk perception, attitudes and practices in relation to the swine flu pandemic: A cross sectional questionnaire-based survey in Bahrain. Int J Collab Res Int Med Pub Health 2011;3(6).
10. Cowling BJ, Ng DM, Ip DK, Liao Q, Lam WW, Wu JT, et al. Community psychological and behavioral responses through the first wave of the 2009 influenza A (H1N1) pandemic in Hong Kong. J Infect Dis 2010S;202(6):867-76.
11. Krishnakumar B, Rana S. COVID 19 in INDIA: Strategies to combat from combination threat of life and livelihood. J Microbiol Immunol Infect 2020;53(3):389-91.
12. "Lockdown 5.0 guidelines: What's allowed, what's not". The Indian Express. 30 May 2020. Retrieved 30 May 2020.
13. "Ministry of Home Affairs Unlock 4.0 official guidelines on their official website" (PDF). Ministry of Home Affairs.
14. "Ministry of Home Affairs Unlock 5.0 official guidelines on their official website" (PDF). Ministry of Home Affairs.
15. "Ministry of Home Affairs Unlock 5.0 official guidelines on their official website" (PDF). Ministry of Home Affairs.
16. COVID-19 In Odisha: State Govt Mandates Wearing Face Masks, Ommcom News, 6 April 2020.
17. Bhandari, Ankita (12 April 2020). "West Bengal makes wearing mask mandatory in public places". Zee News. Retrieved 16 June 2020.
18. "Population Density." Census of India: Population Density, www.censusindia.gov.in/Census_Data_2001/India_at_Glance/density.aspx#:~:text=Density%20of%20population%20in%20India%20is%20382%20persons%20per%20sq%20km.

19. Bish A, Michie S. Demographic and attitudinal determinants of protective behaviours during a pandemic: A review. Br J Health Psychol 2010;15(4):797-824.
20. Becker MH. The health belief model and personal health behavior. Health Educ Monogr 1974;2:324-473.
21. Wang L, He W, Yu X, Hu D, Bao M, Liu H, et al. Coronavirus disease 2019 in elderly patients: characteristics and prognostic factors based on 4-week follow-up. J Infection 2020;80(6):639-45.
22. Sanyaolu A, Okorie C, Marinkovic A, Patidar R, Younis K, Desai P, et al. Comorbidity and its Impact on Patients with COVID-19. SN Compr Clin Med 2020:1-8.
23. Liao Q, Wu P, Lam WWT, Cowling BJ, Fielding R. Trajectories of public psycho-behavioural responses relating to influenza A(H7N9) over the winter of 2014–15 in Hong Kong. Psychol Health 2019;34:162-80.
24. Rui JR, Yang K, Chen J. Information Sources, Risk Perception, and Efficacy Appraisal's Prediction of Engagement in Protective Behaviors Against COVID-19 in China: Repeated Cross-sectional Survey. JMIR Hum Factors 2021;8(1):e23232.
25. Rogers RW. Cognitive and psychological processes in fear appeals and attitude change: A revised theory of protection motivation. Social Psychophysiology: A sourcebook. 1983:153-76.

****

Acknowledgements – Nil
Conflict of Interest – Nil
Funding – Nil